(*a*) Preganglionic neurons Cells in the dorsal motor nucleus of the vagus, fibers through the vagus nerve to the intrinsic ganglions of the heart in which they end

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2 *Cardio-accelerating—the cardiac thoracic lumbar pathway*

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The recent work of Shawe[12] has added considerable knowledge to this subject He has dissected twenty-five bodies with great care, and examined them for communication between the vagus and the inferior cervical ganglion He found the communication in 68 per cent of the specimens investigated, which percentage is possibly less than it should be, in view of the fact that many of the dissections were done on cadavers that had previously been worked on by medical students He found that the relations of the vagus and the cervical sympathetic ganglions were different on the two sides of the body, and that the fibers from these cervical ganglions pass into the recurrent laryngeal nerve All of the specimens were further subjected to careful histologic study Shawe makes this comment from the clinical side

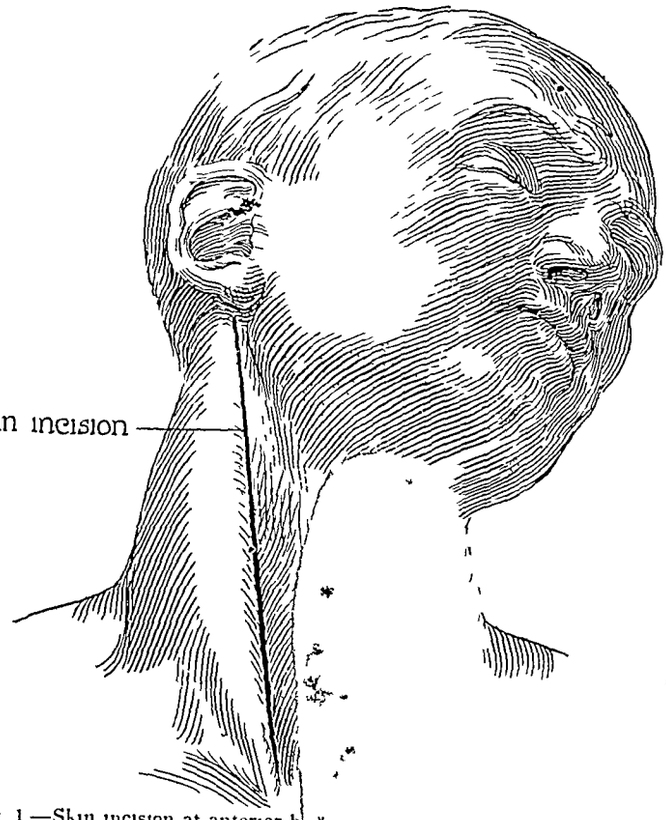


Fig 1—Skin incision at anterior b

It would appear that the importance of these vagosympathetic fibers depends upon their two main spheres of distribution (1) To the cardio-aortic region, and (2) to the thyroid gland In the former association they mediate, at least in some cases, as shown by the success of Jonnesco's operation, the critical nervous impulses of angina pectoris, transmitting the afferent stimuli from the heart and aorta, and very probably transmitting efferent stimuli to that region These nerves form a concentration point for the sympathetic aortic fibers from the upper dorsal segments, and as such present a readily accessible isthmus at which to attack the vicious cycle of irritation by surgical methods

In the editorial comment[13] on Shawe's paper, it is remarked that we are h[ve] why Jonnesco's opera[tion] sympathetic ganglions [in] angina pectoris

He has discovered that in the s[ym] the vagi and recurrent laryngeal nerves [a] and thorax there are medullated nerve fibe[rs] The fibers of large size he has follow[ed to] aortic plexuses, and rightly infers that they must serve as channels for afferent or sensory impulses concerned in the reflex control of the heart If we suppose that these lower cervical sympathetic twigs are the pathways by which abnormal impulses reach upper dorsal centers of the cord and there give rise to anginal radiations, then we have a satisfactory explanation of the rationale of Jonnesco's operation

Therefore, it seems to be well established that the cervical ganglions are included in, and are a part of, the pathway of the acceleration fibers to the heart These ganglions also contain other important nerve pathways For instance[14]

The superior cervical ganglion which forms the cephalic end of the sympathetic trunk has a greater variety of connections than any other ganglion in the body Its branches run to three cranial nerves, three spinal nerves, several arteries, the carotid glomus, the thyroid, salivary and lacrimal glands, smooth muscle of specialized function like that of the eye, the glands and blood vessels of the mucous membrane of the head, the glands and blood vessels of the skin and the smooth muscle of the hair follicles

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12 Shawe, R C Lancet 1 640 (March 29) 1924
13 Lancet 1 660 (March 29) 1924

Date

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## CERVICAL SYMPATHECTOMY FOR ANGINA PECTORIS

REPORT OF CASE

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CHICAGO

The pioneer and most enthusiastic student of the operation of resection of the cervical sympathetic ganglions is Prof. Thomas Jonnesco of Bucharest. Since 1896, Jonnesco[1] has resected the sympathetic nerve and, usually, the first thoracic ganglion on both sides in 200 patients.

In 1896, Jaboulay introduced an operation on the sympathetic ganglions for exophthalmic goiter.

In an earlier communication, Jonnesco[2] reported having done the operation in forty-three cases of epilepsy, one case of epilepsy and chorea, one case of epilepsy and exophthalmic goiter, and eight cases of exophthalmic goiter and glaucoma. To illustrate further the diversity of the supposed usefulness of the operation may be mentioned Jaboulay's[3] recommendations of the operation for trifacial neuralgia, in 1899. In this connection, the work of Pleth[4] is of interest. The latter has used the operation also in cases of persistent tinnitus aurium.

In epilepsy, the operation was thought to be indicated because it was supposed to cause a cerebral congestion instead of a cerebral anemia. In glaucoma, it was thought to lower the pressure in the arteries and cause a diminution of existing extravasation. It destroys the excitosecretory fibers, thus lessening the aqueous humor, it destroys the iris fibers, producing contraction of the pupil, the iris angle and the secretory canals are relieved, and the aqueous humor afforded a ready exit, finally, the destruction of the fibers supplying the smooth peribulbar muscular apparatus causes relaxation of these muscles, removes pressure from the emissary veins, and thus restores the venous circulation.

Brawn[5] declares that the resection of the cervical sympathetic ganglions has not been demonstrated to have been of value in the treatment of epilepsy. Winter,[6] however, compiled 213 cases of sympathetic ganglion resection for epilepsy. Of this number, ninety-six patients had been operated on by Jonnesco. Of the 213 patients, 6.6 per cent. were reported cured. Winter contrasts this with 8,000 patients treated at sanatoriums in which the incidence of cure was given as 1.7 per cent.

Jonnesco[2] believes that the results are excellent in glaucoma when atrophy has not occurred.

Bruning[7] believes that extirpation of the cervical sympathetic ganglions has had no good results in epilepsy, glaucoma and exophthalmic goiter. He feels, however, that the operation is indicated in angiospastic conditions and especially in angina pectoris. Jonnesco[8] regards angina as a manifestation of irritation of the cardio-aortic plexus, in fact, a neuralgia of it. Gilbert, Garmer and Vaquez approve this theory. Franck[9] established relations between the irritation of the cardio-aortic plexus and the more or less distant manifestations seen in angina pectoris. He suggested resection of the cervicothoracic sympathetic ganglions for the relief of angina pectoris, but did not do the operation.

Balacescu[10] notes that the accelerating fibers of the heart which are in the sympathicus arise from the lower part of the cervical cord, and especially from the upper part of the dorsal cord, and enter the three cervical and the first dorsal ganglions, from which, as the cardiac nerves, they enter the plexus cardiacus-aorticus. He notes fibers from all three ganglions making their way to the heart.

### INNERVATION

Of aid in understanding the innervation of the heart is the account of Ranson[11]. The innervation of all viscera (including the heart) is of the afferent and the efferent varieties. In the heart afferent innervation, the cells of origin are in the cerebrospinal ganglions. The fibers run through the sympathetic nervous system, passing through the ganglions and plexuses, without interruption, to end in the viscera. Fibers are found in the ninth and the tenth cranial nerves and in the spinal nerves. Their function is to convey to the central nervous system impulses giving rise to vague sensations and other impulses which, never rising into consciousness, give rise to visceral reflexes.

The paths for efferent innervation of the heart are classified (after Ranson) as follows:

1. *Cardio-inhibitory—the cardiac craniosacral pathway*

1 Jonnesco, Thomas: Presse méd. **31** 517 (June 9) 1923; abstr. J. A. M. A. **81** 510 (Aug. 11) 1923.
2 Jonnesco, Thomas: abstr. by Fowler, R. S.: Ann. Surg. 1897, p. 513.
3 Jaboulay: cited by Seilleau, Pierre, and Schwartz, V. (Footnote 18).
4 Pleth, V.: Am. J. Surg. **36** 300 (Dec.) 1922.
5 Brawn, H.: Arch. f. klin. Chir. **64** 713, 1901.
6 Winter, G. J.: Arch. f. klin. Chir. **67** 816, 1902.
7 Bruning, F.: Med. Klin. **19** 671 (May 20) 1923; abstr. J. A. M. A. **81** 514 (Aug. 11) 1923.
8 Jonnesco: cited by Coffey, W. B., and Brown, P. K.: The Surgical Treatment of Angina Pectoris, Arch. Int. Med. **31** 200 (Feb.) 1923.
9 Franck, F.: cited by Coffey, W. B., and Brown, P. K.: Bull. de l'Acad. de méd., May 30, 1899.
10 Balacescu, J.: Arch. f. klin. Chir. **67** 59, 1902.
11 Ranson, S. W.: J. Comp. Neurol. **29** 305 (Feb.-Oct.) 1918.

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The recent work of Shawe [12] has added considerable knowledge to this subject He has dissected twenty-five bodies with great care, and examined them for communication between the vagus and the inferior cervical ganglion He found the communication in 68 per cent of the specimens investigated, which percentage is possibly less than it should be, in view of the fact that many of the dissections were done on cadavers that had previously been worked on by medical students He found that the relations of the vagus and the cervical sympathetic ganglions were different on the two sides of the body, and that the fibers from these cervical ganglions pass into the recurrent laryngeal nerve All of the specimens were further subjected to careful histologic study Shawe makes this comment from the clinical side

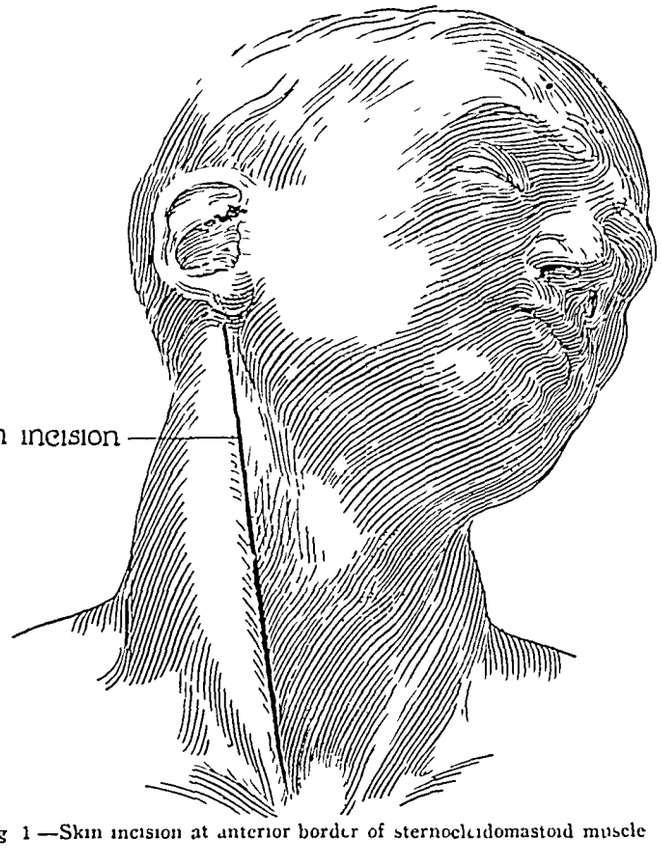


Fig 1 —Skin incision at anterior border of sternocleidomastoid muscle

It would appear that the importance of these vagosympathetic fibers depends upon their two main spheres of distribution (1) To the cardio-aortic region, and (2) to the thyroid gland In the former association they mediate, at least in some cases, as shown by the success of Jonnesco's operation, the critical nervous impulses of angina pectoris, transmitting the afferent stimuli from the heart and aorta, and very probably transmitting efferent stimuli to that region These nerves form a concentration point for the sympathetic aortic fibers from the upper dorsal segments, and as such present a readily accessible isthmus at which to attack the vicious cycle of irritation by surgical methods

In the editorial comment [13] on Shawe's paper, it is remarked that we are helped toward an explanation of why Jonnesco's operation of removing the cervical sympathetic ganglions in the neck relieves the pain of angina pectoris

He has discovered that in the sympathetic twigs which join the vagi and recurrent laryngeal nerves at the junction of neck and thorax there are medullated nerve fibers of various sizes The fibers of large size he has followed to the cardiac and aortic plexuses, and rightly infers that they must serve as channels for afferent or sensory impulses concerned in the reflex control of the heart If we suppose that these lower cervical sympathetic twigs are the pathways by which abnormal impulses reach upper dorsal centers of the cord and there give rise to anginal radiations, then we have a satisfactory explanation of the rationale of Jonnesco's operation

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### STEPS OF OPERATION (JONNESCO)

The total resection of the cervicothoracic ganglions may be carried out by the method described by Jonnesco [15] He employs "rachianesthesia" (spinal) with stovain He divides the operation into eight parts

1 *The Incision*—This is along the posterior border of the sternocleidomastoid muscle, from the posterior edge of the mastoid to the clavicle The incision is deepened through the skin, the platysma, the external jugular vein between two ligatures, and the branches of the superficial cervical plexus

2 *The Disengagement of the Posterior Border of the Sternomastoid*—The posterior edge is split, parallel to the muscle fibers, and the muscle itself is partially incised

3 *Isolation of the Vasculonervous Bundle*—The wound in the sternomastoid is enlarged lengthwise with the index fingers By this method, the space between the vasculonervous bundle (common carotid artery, internal jugular vein and vagus nerve) and the vertebral plane is entered A special retractor is applied to the anterior border of the wound This retractor draws anteriorly the vasculonervous bundle, the sternomastoid muscle and the skin

4 *The Isolation of the Sympathetic Trunk*—In general, after the maneuvers described in Step 3, the sympathetic trunk rests on the vertebral plane, enclosed in its flimsy, transparent sheath and resting on the deep aponeurosis of the neck Care must be taken that the sympathetic trunk is not under the retractor The

12 Shawe, R C Lancet **1** 640 (March 29) 1924
13 Lancet **1** 660 (March 29) 1924
14 Ranson, S W, and Billings, P R J Comp Neurol **29** 367 1918
15 Jonnesco, Thomas Presse med **30** 353 (April 26) 1922

ness, below and slightly to the left of the umbilicus His digestive symptoms had also become more marked, and he was much annoyed with water-brash after eating He had been quite constipated for three months, whereas previously the bowels had been very regular

At 5 a m, January 29, he was awakened by violent, griping pain in the region of the umbilicus, he was, as he expressed it, "drawn double" The pains were distinctly colicky, recurring at intervals of a few minutes There was also intense, diffuse soreness over the whole abdomen Nausea, vomiting and frequent eructations of gas occurred during the day The pain became more severe during the night Several high enemas are said to have been ineffectual, although a spontaneous movement occurred early on the morning of January 30, when he was admitted to the hospital

*Physical Examination*—The abdomen was flat and board-like in its rigidity The muscles were unusually well developed, and there was almost no adipose tissue There was diffuse tenderness over the whole abdomen, most marked to the left of the umbilicus No abnormal mass could be seen or felt The temperature was 99 5 F while the blood count showed 13,000 white corpuscles, with 82 per cent polymorphonuclears A diagnosis of probable perforated duodenal ulcer was made, and an operation was performed

*Operation and Result*—A right paramedian incision was made, between the ensiform cartilage and the umbilicus The parietal peritoneum was unusually thick, almost like fascia The stomach was small and undistended and presented no abnormalities The first portion of the duodenum likewise gave no evidence of ulcer, and the gallbladder was normal The remainder of the viscera presented a remarkable picture, as illustrated in Figure 1 No small intestine was seen The greater portion of the abdomen was occupied by an encysted mass, which at first gave the impression of being an enormous cyst The ascending, transverse and descending colons encircled the mass All were moderately distended The greater portion of the enlargement was to the left of the midline, but the enlargement also extended far toward the right, behind and to the right of the ascending colon, which was thus pushed forward and medianward Beneath the peritoneal envelop of the mass could be made out the vague outline of intestinal coils It was now recognized that we were dealing with a retroperitoneal hernia, although its exact nature and mechanism were still obscure The peritoneum was incised, just to the outer border of the ascending colon the inner sac of the hernia could then be easily dislocated toward the midline, as well as upward In the latter direction, it extended to the region of the pancreas which was exposed, together with the upper portion of the superior mesenteric vessels, as they crossed the pancreas from above downward The hernial sac was now entered, and many loops of small intestine were exposed They were moderately distended but there was no indication of impaired vitality The finger was passed downward and to the left, and the neck of the sac easily palpated It was large enough to admit two fingers and was directed downward, backward and to the left The remainder of the ascending colon and the cecum were lifted from the posterior abdominal wall The appendix was rather short and thick walled There was an unusually well developed ileocolic band, extending from the appendix to the terminal ileum Only about 6 inches of the latter was outside the sac The band was ligated and severed, and the appendix was then removed The reduction of the incarcerated hernia was completed as hurriedly as possible, as the patient's condition did not warrant prolonged manipulations An effort was made to close the orifice at its lower portion with catgut sutures, but this was not as satisfactory as might have been wished, because of the comparative fixation of the edges The ascending colon and cecum were lightly tacked back to the posterior parietes, and the operation was concluded

The patient left the table in fairly good condition, and made a perfectly smooth recovery He is now enjoying good health, with freedom from his former symptoms

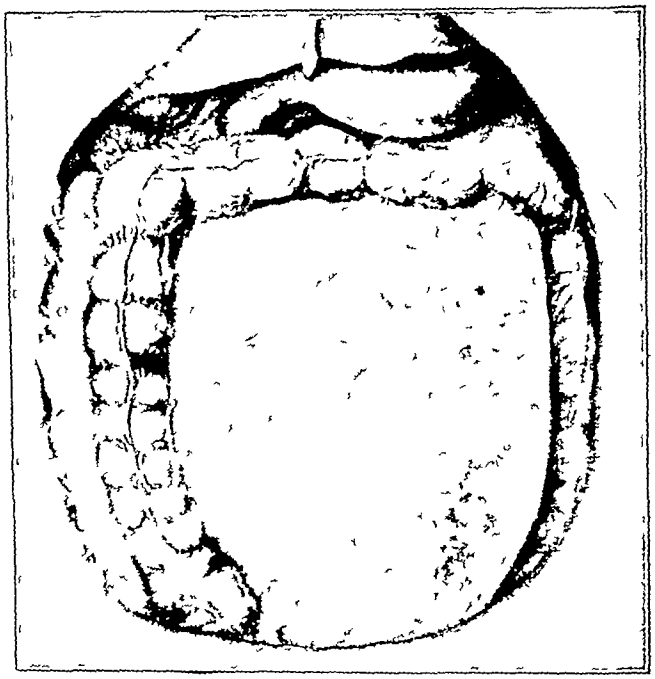

Fig 1—Appearance of enormous retroperitoneal hernial mass filling most of the abdomen with absence of small intestine in abdominal cavity, and the vague outline of the imprisoned intestinal coils through the hernial sac

## MECHANISM

The mechanism of right paraduodenal hernia has not yet been worked out with entire satisfaction, although the work of Moynihan, especially, has thrown much light on the subject It is, of course, a form of retroperitoneal hernia, in the same broad sense as is a hernia through the foramen of Winslow, or a hernia into one of the retrocecal fossae An intelligent conception of its mechanism presupposes a knowledge of the peritoneal fossae that are found in the region of the duodenojejunal angle The investigation of these fossae has given rise to a bewildering nomenclature, which does not make their study any easier At least nine fossae in this region are described by Moynihan The existence of some of these is rather generally accepted, though usually under a variety of names, concerning others, there is much difference of opinion among authors as to the mere fact of their occurrence, much less their exact limitations

Among the generally recognized fossae are the superior and the inferior duodenal Both are situated to the left of the ascending portion of the duodenum The orifice of the superior looks downward, while its apex is upward This fact, together with the fact that the pouch, when it occurs, is only a potential one, probably explains why the superior duodenal fossa is of no importance in the causation of hernia The inferior duodenal fossa is of more importance In the first place, it is present in a much larger percentage of cases than any other fossa in this region Its orifice is directed upward, vis-a-vis to the superior fossa, while the pouch extends downward toward the right of the mesentery

A third fossa in this region is the paraduodenal, or the fossa of Landzert To this Moynihan attributes great importance in the causation of left duodenal hernia The fossa is produced by the elevation of a peritoneal fold by the inferior mesenteric vein, which

thus comes to lie in the anterior margin of the fossa We shall not describe this fossa at any great length, as it has no direct relation to the variety of duodenal hernia represented by our own case

Right-sided paraduodenal hernia, according to Moynihan, has its origin in what he designates as the mesentericoparietal fossa, or the fossa of Waldeyer His own description of it is as follows

> The most usual position of this fossa is in the first part of the mesojejunum, immediately behind the superior mesenteric artery, and immediately below the duodenum The fossa varies considerably in size I have not infrequently seen a slight, though well defined, bulging of the peritoneum in this situation, but I have only thrice met with a distinct fossa in adults In seventeen embryos of less than five or six months, I met with six fossae The fossa has its orifice looking to the left, its blind extremity to the right and downward In front, it is bounded by the superior mesenteric artery, and behind by the lumbar vertebrae The peritoneum of the left leaf of the mesentery lines the fossa, that of the right covers the blind end, and is then continued directly into the posterior parietal peritoneum A forcible enlargement of the fossa would thus result in tearing up this layer of peritoneum lining the posterior abdominal wall

Fig 2.—Size, length and relations of the hernial ring For the sake of clearness, the numerous sheetlike adhesions about the appendix and terminal ileum are not shown

Moynihan lays down three factors as invariably present in all cases of right duodenal hernia The sac, at least in the beginning, occupies the right half of the abdominal cavity, its orifice is behind and to the left of the sac, and in its anterior margin there lies either the superior mesenteric artery or its continuation, the ileocolic This last factor can be easily understood from what has been said as to the position of this vessel in the anterior margin of the mesentericoparietal fossa

Nagel, in his recent study, takes issue with the assertion of Moynihan that the fossa of Waldeyer is invariably the starting point for this form of hernia In none of the eighty-five adult subjects and seventeen fetuses that he dissected did he find a mesentericoparietal fossa In four of the subjects, however, he found a very low position of the inferior duodenal fossa He believes that a fossa of this type might readily give rise to a right paraduodenal hernia, for the bowel might well peel away the peritoneum of the upper margin of the fossa, and thus burrow to the right, toward the superior mesenteric vessels The latter would thus come to occupy a position along the anterior margin of the hernial ring, this being the chief criterion of the right paraduodenal hernia This contention appears to be a plausible one, although it would seem that the fossa of Waldeyer, when it exists, offers a much more direct and logical explanation of the mechanism

In a recent paper, Andrews [3] advances an embryologic explanation of the causation of duodenal hernia which term he considers a misnomer He believes that the condition is a "congenital anomaly in the development of the peritoneum," and that it is due to "imprisonment of the small intestine beneath the mesentery of the developing colon" The arguments that he offers against the older theories of herniation into peritoneal fossae seem valid enough, and his explanation of the peritoneal developmental anomalies that may cause duodenal hernia are quite impressive It appears probable that his paper will open up a new line of investigation of the entire subject

### INCIDENCE

The twenty-nine cases previously reported are reviewed so thoroughly by Nagel that it would be a useless repetition to analyze them again Furthermore, Nagel's paper is accompanied by a satisfying bibliography It is of interest to note that the first careful description of this type of hernia was given as far back as 1661, by Klob It may be observed at any age The youngest patient was apparently that of Paton, and was aged 3 months, the oldest, a woman of 68 reported by Rose

### SYMPTOMATOLOGY

A large portion of the reported cases (seventeen out of thirty) have been discovered accidentally, on postmortem examination Operation was performed in thirteen cases, including our own, and in ten of these the hernia was found to be the cause of the symptoms In the others, the presence of the hernia was incidental to some other condition It is obvious that an individual might harbor such a hernia for many years without acute symptoms, the latter being precipitated by incarceration or strangulation of the herniated intestine, as with other varieties of hernia Our own patient had had two milder acute attacks previous to the violent one that brought him to operation For six years, however, he had suffered with digestive symptoms not unlike those seen with chronic duodenal ulcer, for which the condition was mistaken, as noted in the history given above In not a single reported case, according to both Moynihan and Nagel, has a diagnosis been made before operation or postmortem

### OPERATIVE TREATMENT

Our case seems especially gratifying because of its successful outcome Two previous cases are reported in which recovery followed operation The first was the case of Neumann,[4] in 1898 His patient was a woman of 55, who was operated on because of symptoms of obstruction Only a few intestinal coils were found outside the sac The intestine within the sac was found to be cyanotic and distended Neumann endeavored to

3 Andrews, E Duodenal Hernia—a Misnomer Surg Gynec & Obst 37 740 750 (Dec) 1923

4 Neumann A Ein Fall von operativ geheilter Hernia retroperitonealis Mesenterico Parietalis Deutsch Ztschr f Chir 47 476 491 1898

close the ring by suturing it from above downward, leaving a small portion open for drainage The second successful case was reported, in 1912, by Carson,[5] whose patient was a man of 29 As in our case, several previous attacks of pain had occurred, and the picture presented at operation was not unlike that which we found in our case Lying to the right of the pylorus were two portions of intestine apparently linked together—one duodenum, the other ascending colon" The operative procedure is thus described

The small intestine was withdrawn in a collapsed condition from a sac situated behind the peritoneum in front of the right kidney, and was found to have a double axial twist from left to right, completely obstructing the whole of the intestines at the neck of the sac When the twist was released, the two portions of the intestine previously mentioned as linked together were freed also It was now seen that the ascending portion of the duodenum and the duodenojejunal junction had a long mesentery, and were not in any way fixed to the posterior wall The neck of the sac was large, the anterior margin containing the superior mesenteric artery the posterior containing the inferior mesenteric vein No attempt was made to close the opening

Our own case is thus the third in which recovery followed operation In many ways our findings were similar to those of Neumann The incarcerated bowel, however, showed little evidence of cyanosis or strangulation A point of especial interest in our case was the marked forward displacement of the ascending colon, and the fact that, as in one or two previously reported cases, the sac was incised above and to the right dislocating the ascending colon inward toward the midline The liberation of the bowel, however, was from right to left through the neck of the sac The fact that the operation was, of necessity, a hurried one made it impossible to examine the neck of the sac with as much deliberation and detail as might have been done on the cadaver, but there can be little doubt, from what has been said as to the position and direction of the ring, that the hernia is properly classified as of the right paraduodenal type As in Neumann's case, an effort was made to close the neck of the hernia by suture, although this was not quite as satisfactory as might seem at first thought Inversion of the sac is, of course, out of the question in such a huge hernia as this was, though it would seem to be a rational procedure if the hernia is very small

Showing apparent absence of penis which is atrophied and retracted

In our own case, the patient has thus far remained perfectly well, without even the slightest symptoms of digestive disturbance Theoretically, however, it is of course possible that the intestine might again enter the neck of the sac, even though this has been partially obliterated The fewness of the cases in which operation has been performed, and the fact that the surgeon will often appreciate the real nature of the case only after thinking it over and looking up reports of similar cases, will no doubt explain why so little of a definite nature can be stated as to the best plan of surgical treatment, after reduction of the hernia These cases are not readily reproduced or imitated on the cadaver and hence it would seem important that those who encounter hernias of this type in the more deliberate atmosphere of the necropsy room should study not only the mechanism involved but also the question of how best to treat surgically this form of hernia

5 Carson H W A Case of Right Duodenal Hernia Proc Roy Soc Med Surg Sec 5 214 216 1912

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## REFLEX ATROPHY AND CONTRACTURE OF THE PENIS FOLLOWING HERNIORRHAPHY *

GEORGE WILSON, M D
PHILADELPHIA

During the late war, new nervous disorders were described, and previously reported conditions were again brought to light Perhaps none of these conditions caused more comment, especially by the French, than the so-called reflex paralyses Roussy [1] gave the name of "the dyskinetic syndrome" to this condition Babinski [2] proposed that the phenomena be called physiopathic—'a term intended to express the idea that, on the one hand, neither hysteria nor any other psychopathic state can produce them, and, on the other hand, that, while indicating a physical and material disorder of the nervous system, they do not appear to correspond to any lesion which can be detected by the methods at our disposal"

Reflex paralysis develops after wounds or injuries of the limbs, and sometimes after frost bite, the bones and joints are often not involved The syndrome frequently comes on in cases in which an extremity has been transfixed by a foreign body and the nervous disturbance is found present above the wound as well as below The symptoms may come on almost immediately after the injury, which may be very slight or the onset may be delayed some weeks, or, in rare cases, months The hand and forearm are more frequently involved than the lower extremity The affected part is paralyzed, although the paralysis does not correspond to any nerve or root distribution Contractures take place that are due in some instances to hypotonicity in certain groups of muscles and hypertonicity in their antagonists The affected part shows marked vasomotor phenomena, with a lowering of the temperature, increased muscular irritability is present both to mechanical and to electrical stimulation Muscle atrophy is present in some cases, usually slight, but, it may be, marked, but reactions of degenerations are not present Decalcification of the bones in the involved area has been noted The tendon reflexes are exaggerated on the affected side, the exaggeration becoming more pronounced under anesthesia [2]

There has been a lively debate among neurologists whether this condition is organic or hysterical Several theories have been advanced to explain reflex paralysis the first of these is the reflex theory, and attributes the

* From the U S Veterans' Bureau Philadelphia District 3 and from the Neurological Department of the University of Pennsylvania School of Medicine

1 Roussy Gustave Elements of Predisposition and Determining Causes of Secondary Disorders in Psychoneurotic Acroparalysis Resulting from the War The Dyskinetic Syndrome Arch Neurol & Psychiat 1 247 (Sept) 1920

2 Babinski J and Froment J Hysteria or Pithiatism University of London Press 1918

origin of these disorders to changes in the nerve cells, which are supposed to occur, for example, in the muscular atrophy that follows arthritis The second, or dynamogenic, theory holds that, if treated properly, the disorders will disappear without leaving any residual, but, if not properly cared for, conditions become fixed by a psychic mechanism The theory admits an organic lesion, usually slight, at first The dyskinetic theory has been advanced by Roussy and his associates Roussy thus summarizes his remarks 1 To enable the appearance of vasomotor and trophic disorders, through the course of acrocontractural and acroparalytic manifestations, the following conditions are necessary (*a*) elements of predisposition and among them circulatory troubles, (*b*) immobility or defective function, and (*c*) a special mental state 2 The circulatory caloric and trophic disorders are only manifestations of a secondary class arising from primary conditions of neuropathic nature, paralysis or contracture

It may seem a far cry to explain any condition of the penis along these lines, yet I believe that in the case about to be cited the condition is comparable to reflex paralysis

REPORT OF CASE

*History*—A white man, aged 25, single, a pugilist before the war, enlisted, July 20, 1917, and was discharged, Oct 25, 1918 His chief disability came on after an operation for a right inguinal hernia, Feb 2, 1918 Following this operation, he noted that the penis became smaller and smaller, and in the course of a few weeks became buried in the fat over the pubic region The penis could not be protruded beyond the glans Any effort to deliver the organ was accompanied by considerable pain and by great anxiety and fear Before the operation for hernia, he was capable of performing the sexual act, but since then he had never had an erection The physical defects (obtained from the Adjutant General's Office) at enlistment were (1) slight left varicocele, (2) first degree of flatfoot, and (3) one missing tooth Additional evidence is available from medical men testifying to the normal condition of the man's external genitalia before the war

The patient was in various hospitals almost continuously from Feb 2, 1918, until October, 1918, yet he told of some momentous doings at the front in which he participated during this time He informed one medical officer that he held an entire sector by himself, and in doing this he was wounded in the groin by shrapnel He was rendered unconscious and remained so for two days, and later he was decorated by the French government for extraordinary heroism in action As far as can be determined by records in the war department, all these statements are fabrications The man also claimed at one time that the condition of the penis followed shrapnel wounds of the lower abdomen

When I saw the patient in 1923, I immediately recognized him as a soldier whom I had examined as a member of a disability board, March 14, 1918, at Blois, France At that time, about six weeks after the operation for hernia, he had the retraction of the penis which was now his chief source of worry, discomfort and apprehension

*Examination*—From a general physical point of view, the man was extremely well developed and nourished He was 5 feet, 7 inches (170 cm) tall and weighed 180 pounds (81.6 kg) His lungs, heart, reflexes, teeth, mouth and muscular development were normal A scar was present in the right inguinal region, the result of a hernia operation The scrotum and its contents were normal At first sight it appeared that the man had no penis (as in the accompanying illustration), but on further examination the organ was discovered buried in the lower part of the abdominal wall The man could not voluntarily protrude the penis at all, and manipulation of it caused pain It was impossible accurately to determine the size of the penis, which lay buried in prepubic fat, but it would seem to be about 1½ inches (4 cm) in length and one-half inch (1.2 cm) in diameter There was an excessive amount of perspiration about the external genitalia Pain, touch, heat and cold sensations were normal except over the penis, where hyperesthesia was present The blood and urine examinations were normal

COMMENT

The patient was normal, as far as the external genitalia were concerned, before an operation for a right inguinal hernia, Feb 2, 1918 When I first saw him, which was about six weeks after the operation, he had an atrophy and retraction of the penis, and these things have persisted ever since No evidence of nerve injury can be obtained, and there is no record of injury to the vessels in the inguinal canal What, then, could have caused the most extraordinary condition which the man has today and had, in fact, six weeks after the operation?

Surgeons with world-wide experience, and genitourinary experts of national repute, have informed me that they have never seen a similar deformity occur as a result of a hernia operation I believe that this condition corresponds to the reflex atrophy and paralysis that occur in an extremity as the result of a wound or injury that may be trivial It is needless to say that, in view of the part involved in the case reported, not all the symptoms and physical findings of reflex atrophy and contracture are present

1909 Chestnut Street

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# INVERSE RELATION BETWEEN IODIN IN FOOD AND DRINK AND GOITER, SIMPLE AND EXOPHTHALMIC

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WITH THE TECHNICAL ASSISTANCE OF

JOSEPH C HATHAWAY, B S
MINNEAPOLIS

We consider that we have proved statistically that both simple [1] and exophthalmic goiter in the United States are caused by iodin starvation

The Swiss goiter commission has been concerned with the prophylactic use of iodin, particularly iodized salt, and it secured the services of Fellenberg [2] to make a study of the distribution of iodin in nature Fellenberg has, in a general way, confirmed Chatin's conclusions He also found that iodin when added to salt [3] was volatilized to some extent in ordinary storage in a grocery store Since he found that the purer the salt, the less loss of iodin occurred, it seems probable that the loss is due to the presence of nitrites or nitrates which oxidize the iodid to iodin, which then is lost in the air

Fellenberg's report was not received by us until our work was complete He developed methods somewhat similar to ours, though not quite so accurate, but by being content with less accuracy, he was able to make a much larger number of determinations Fellenberg found that food from a goitrous region contained less iodin than the same food products of nongoitrous regions He found wheat to be especially low in iodin, and most fruits and leafy vegetables and animal foods to be higher in iodin The iodin of milk

1 McClendon, J F, and Williams, Agnes Simple Goiter as a Result of Iodin Deficiency J A M A **80** 600 (March 3) 1923 Miesbach E Deutsch med Wchnschr **48** 657 (May 19) 1922

2 Von Fellenberg T Mitt a d Geb d Lebensmitteluntersuchung u Hyg **14** 161, 1923

3 Fleissig, P Schweiz Apoth Ztg **60** 591 596 1922

was mostly in the butter Wheat straw contained much more iodin than the wheat grain Although Fellenberg found iodin in the air, he says that the amount is not significant in the prevention of goiter He found a seasonal variation in the iodin of river water This might be of interest in relation to the seasonal variation that has been found in the iodin of the thyroid gland

These analyses of Fellenberg have been greatly extended in this country in relation to sea foods by Tressler and Wells for the United States Bureau of Fisheries, but have not yet been published

## EXPERIMENTAL

In Table 1 are the results of our analyses of foods from goitrous and nongoitrous regions Owing to the great amount of time necessary for a single analysis, we have not attempted to obtain foods from all parts of the country, but have been content so far with foods from Minnesota and Oregon as the goitrous regions, and foods from the coast of New England and California as the nongoitrous regions It may be seen from the table that in the nongoitrous regions the iodin content of the food may be 100 per cent higher than that in the goitrous regions

Several kilograms of wheat are necessary for an iodin determination, and the iodin is more concentrated in the coarse parts of the grain, being very low in the white flour One sample of wheat ground in the experimental flour mill contained 6 6 mg of iodin per ton, straight flour, 3 5, bran, 15 5, shorts, 9 6, and red dog flour, 3 7 mg per ton The 6 6 mg of iodin in a ton of wheat was thus distributed straight flour, 2 37, bran, 3 28, shorts, 0 9, and red dog, 0 04

Fig 1—Goiter map of Switzerland The black areas represent regions from which (during thirteen years) an average of from 80 to 240 per thousand of the draft have been exempted from military service on account of goiter in the white area from 10 to 80 per thousand have been exempted for the same reason It should be noted that the highest rate in the United States is only 111 per thousand The black area corresponds to the high Alps and the greatest number of goiters were found in the deep valleys of these high Alps The lake regions and the lowlands are in the white area (After Hunziker)

It would take a person ten years or more to eat a ton of white flour to get 3 mg of iodin Since the normal thyroid gland contains about 40 mg of iodin, the contribution from white flour is evidently insignificant Larger amounts of iodin were obtained from milk and animal products and leafy vegetables and fruits It is significant to note that canned salmon (this is also true of some other sea fish) does not contain as much iodin per ton of dry weight as some leafy vegetables raised in goitrous regions In fact, milk, the leafy vegetables and some fruits contain the highest amounts of iodin of any land products If these vegetables are thoroughly macerated or ground in the preparation of the food, it is probable that the iodin can be extracted in the alimentary canal, but with some fruits most of the iodin is in the seeds and skins, and sometimes these are not eaten, when the seeds are swallowed whole, many of them will germinate after passing the alimentary canal, and we therefore assume that they have not been extracted thoroughly in regard to any constituent We have not made many analyses of sea foods, but it is well known that the bony fish are rather low in iodin compared to some other sea foods, and that seaweeds are the highest in iodin of any substances used as food Unfortunately, however, Americans do not use much seaweed as food Professor Fry of the University of Washington demonstrated, many

TABLE 1—*Milligrams of Iodin per Metric Ton of Dry Foodstuff*

| | Iodin Content | Locality |
|---|---|---|
| *From Nongoitrous Regions* | | |
| Wheat | 4 | Storrs Conn |
| Wheat | 9 3 | Edgecomb Me |
| Oats | 23 | Storrs, Conn |
| Oats | 175 | Wiscosset Me |
| Corn | 52 | Wiscosset Me |
| Barley | 73 | Storrs Conn |
| Rye | 3 5 | Storrs Conn |
| Carrots | 170 | California Coast |
| Salmon | 45 | Alaska |
| Salmon | 75 | Oregon |
| Salmon | 115 | Alaska |
| Salmon | 324 | Alaska |
| Goat's milk | 400 | California Coast (Salinas) |
| *From Goitrous Regions* | | |
| Cereals | | |
| Oats | 10 | Minnesota |
| Wheat | 1 | Minnesota |
| Wheat | 6 6 | Minnesota |
| Straight flour | 3 5 | Minnesota |
| Bran | 15 5 | Minnesota |
| Shorts | 9 6 | Minnesota |
| Red Dog | 3 7 | Minnesota |
| Pot herbs | | |
| Spinach | 19 5 | Oregon |
| String beans | 29 | Oregon |
| Carrots | 2 3 | Oregon |
| Soup vegetables | 13 5 | Oregon |
| Fruits | | |
| Apples (peeled and cored) | 3 | Oregon |
| Pears (peeled and cored) | 15 | Oregon |
| Prunes | 4 8 | Oregon |
| Bing cherries | 33 | Oregon |
| Peaches | 11 1 | Oregon |
| Loganberries | 160 | Oregon |
| Animal foods | | |
| Skim milk | 12 | Minnesota |
| Butter | 140 | Minnesota |

years ago, some very delicious foods that could be made out of kelp The home economics department of the University of Washington had been experimenting on the use of kelp in food It is probable that agar, which has a high iodin content, is coming into greater use in this country as a substitute for gelatin and pectin

In order to demonstrate the iodin retained from a normal diet, one of us, aged 23, who had lived all his life in this goitrous region, but has always been free from goiter, was the subject of a three-day metabolic period The diet was divided into equal parts, one half of it was eaten, this being the quantity which, as far as it is possible to determine, is the usual food intake both in quantity and in species of the different foodstuffs The parts saved were analyzed for iodin, and, allowing time for the food to be absorbed, the excreta were collected for a three-day period and analyzed for iodin The diet consisted of

First day Breakfast oatmeal bananas, toast and coffee, lunch potatoes, eggs, celery, bread butter, rice pudding and one glass of milk, dinner potatoes roast beef, navy beans, bread, butter, jelly, blueberry pie and tea

Second day Breakfast grapefruit, pancakes, maple syrup, strawberries, toast and coffee, lunch potatoes, small amount of bacon, peas, radishes, peaches and one cup of tea, dinner pork, potatoes, bread, butter, string beans, angel food cake

Third day Breakfast whole wheat cereal, bananas, toast and coffee, lunch, potatoes, beef, cauliflower, prunes and milk, dinner potatoes, beef navy beans, orange, apple pie and tea

Water 1 5 liters a day

The bananas, oranges, prunes, grapefruit, peaches, coffee and tea are not raised in this region The bananas came from a nongoitrous region, and the other imported foods may have come from nongoitrous regions It seems probable that most of the iodin is derived from milk, butter, leafy vegtables and fruits

We found that for the three-day period the iodin intake was 0 57 mg, and that there was excreted 0 021 mg, showing a retention of 0 036 mg in three days, or 0 012 mg a day At this rate, it would require about ten years to accumulate 40 mg of iodin Since this subject had always been free from goiter although living in a goitrous region, his freedom from goiter is evidently due to the fact that he obtained enough iodin from milk products, leafy vegetables and fruits to

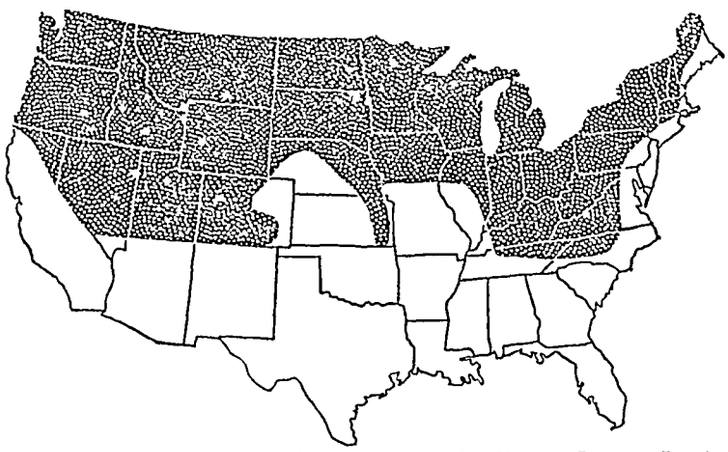

Fig 2—The iodin in drinking water in the United States In the black area, waters contain from 1 to 22 parts of iodin per hundred billion parts of water, in the white area, from 23 to 18,470 parts Some old analyses have shown even higher values in mineral springs in the southern half of California

supply the thyroid gland Many persons do not get a large quantity of these three food classes, and hence succumb to goiter

Fellenberg [4] performed on himself an iodin metabolism experiment covering a long period His food intake was not normal, however, but intentionally low in iodin, in the latter part of the experiment, iodin was added in the form of potassium iodid or cod liver oil, sardines or watercress, in one case, in the form of butter Those who refer to Fellenberg's paper should note that he expresses his results in micrograms (1,000 micrograms making 1 milligram), but the numerical values he gets for the iodin content in foods are the same as ours He records the micrograms of iodin per kilogram of food, and we record the milligrams of iodin per metric ton of food, in both cases being the parts per billion Fellenberg's low iodin diet contained 0 0143 mg a day He excreted about the same quantity On adding iodin in various forms to this basal diet, he increased the excretion but not to the extent of the intake, so that he obtained a positive iodin balance

Our results on the iodin content of drinking waters are given in Table 2 The localities are divided into two regions Practically all those of the first region contain less than 23 parts per hundred billion, and practically all those in the second region contain more than 23 parts per hundred billion These two regions are shown in Figure 2 The black area is the low iodin region, and the white area is the high iodin region In the making of this map, some difficulties have arisen owing to the fact that drinking waters are obtained from several different

TABLE 2—*Parts of Iodin per Hundred Billion Parts of Drinking Water from the Iodin-Poor Zone and the Iodin-Rich Zone*

| Iodin | Town | Source of Water |
|---|---|---|
| | | *Iodin Poor* |
| 1 | Duluth, Minn | Lake Superior |
| 1 | Spokane Wash | 60 feet wells |
| 1 | Rockford, Ill | 450 1,500 feet deep wells |
| 1 2 | Ames, Iowa | Wells 75 100 feet deep |
| 1 2 | Wellesley, Mass | Wells 65 feet deep |
| 1 5 | Bozeman Mont | Bozeman Creek |
| 1 5 | Iowa City | Iowa River |
| 1 5 | Geneva N Y | Seneca River |
| 1 5 | Milwaukee | Lake Michigan |
| 2 | Marquette Mich | Lake Superior |
| 2 | Indianapolis | White River and wells 365 feet deep |
| 2 3 | Seattle | Cedar River |
| 3 | Portland, Ore | Bull Run Lake |
| 5 | Waseca, Minn | Well 240 feet deep |
| 5 | Rochester, Minn | Wells 32 418 feet deep |
| 5 | Lincoln, Neb | Wells 77 100 feet deep |
| 6 | Independence, Kan | Verdigris River |
| 6 | Oregon City, Ore | Clackamas River (glacial) |
| 6 1 | Cumberland, Md. | Mountain springs |
| 7 6 | Mount Clemens, Mich | Wells 30 65 feet deep |
| 8 | Fargo N D | Red River |
| 9 | Seattle | Cedar River |
| 10 | Winnetka, Ill | Lake Michigan |
| 10 | Portland, Ore | Bull Run River |
| 10 | Hagerstown, Md | Mountain springs and streams |
| 10 | Brunswick, Md | |
| 10 | Hutchinson Kan | |
| 11 | Lawrence, Kan | Shallow wells |
| 12 | Chicago | Lake Michigan at Wilson Avenue Crib |
| 13 2 | Raleigh, N C | Walnut Creek |
| 14 | Morris, Minn | Well 70 feet deep |
| 14 | Norton, Mass | |
| 15 | Charlestown W Va | Spring |
| 16 | Thurmont, Md | Mountain stream |
| 18 | Hancock Md | Mountain stream |
| 18 | Chippewa Falls, Wis | Chippewa springs |
| 21 | Columbus, Ohio | Scioto River |
| 22 | Nashville, Tenn | Cumberland River |
| | | *Iodin Rich* |
| 23 | Miami, Fla | |
| 25 | Harrisburg, Pa | Susquehanna River |
| 40 | Frederick, Md | Small stream |
| 60 | Richmond, Va | James River |
| 61 | Houston, Texas | Deep wells from 250 to 1,330 feet deep |
| 66 | Fort Scott, Kan | Marmaton River |
| 72 | Washington, D C | Potomac River |
| 77 | Denver | South Platte River, Cherry and Bear creeks |
| 88 | Linden Calif | 60 foot well |
| 90 | Springfield, Ill | Sangamon River and adjacent wells |
| 92 | Richmond, Va | James River |
| 107 | Rochester, N Y | Hancock Lake |
| 110 | New York City | Catskill Supply (F E Hale) |
| 119 | Le Roy, N Y | |
| 130 | New York City | Croton Supply (F E Hale) |
| 145 | Toronto | Lake Ontario |
| 167 | Charlottesville, Va | |
| 169 | Kansas City, Kan | Missouri River |
| 174 | New Haven, Conn | Small lakes and rivers |
| 230 | Boston | Lake Cochituate, Sudbury and Nashua rivers |
| 250 | New York City | Long Island supply (F E Hale) |
| 320 | Atlanta Ga | Oconee River |
| 352 | St Louis | Mississippi River |
| 391 | Salina, Kan | Well |
| 500 | Baltimore | Gun Powder River |
| 590 | Berkeley Calif | San Pablo Lake |
| 770 | New Orleans | Mississippi River |
| 5 458 | Corona, Calif | Source in Santa Ana Mountains |
| 7,330 | San Dimas, Calif | Wells in river bed |
| 10 580 | Stanford Calif | Deep wells |
| 18 470 | Mexia Texas | Deep well 3,005 feet |

sources, (1) uncontaminated surface water, (2) surface water to which iodin has been added in the form of sewage, (3) underground water that has not reached iodin deposits, and (4) underground water that has received iodin from deposits usually formed by the evaporation of sea water, and hence containing sodium chlorid also

4 Von Fellenberg T Untersuchungen über den Jodstoffwechsel, I, Biochem Ztschr **142** 246, 1923

During various geologic ages, arms of the sea have been cut off by upheavals of mountain ranges, and left to evaporate and deposit their salts, including iodin, since sea water contains about 0.038 mg. of iodin per liter, partly in the form of iodid but chiefly in the form of iodate. Salt deposits (Fig. 3) are found in New York, Ohio, Michigan, Kansas, western Texas, California and other states. These deposits have been covered up by sand and silt, brought down from the mountains by rains. In moist regions, they do not, at the present day, add an appreciable amount of iodin directly to the surface waters, but in dry regions, the iodin so accumulated may possibly appear to some extent in the surface waters.

On the drilling of artesian wells, one may strike water relatively rich in iodin, whereas the surface water is very poor in iodin. The iodin content of the artesian water is then no index of the iodin supply of the region, since the foodstuffs may be watered entirely by surface water, and the person drinking the artesian water may be getting a high iodin content in the liquid part of his diet, but a low iodin content in the solid food, and hence may not be protected from goiter. The same is true of persons drinking water from certain waters contaminated with iodin from human agencies. If the foodstuffs are not watered from such contaminated water, that is to say, if they are watered mainly by the rain, the iodin content of this contaminated drinking water is no index of the iodin supply of the region. A certain amount of iodin is brought down in rain water, but this is relatively very small in comparison to that derived from the soil.

A very complete chlorin map of New England and New York has been prepared by the U. S. Geological

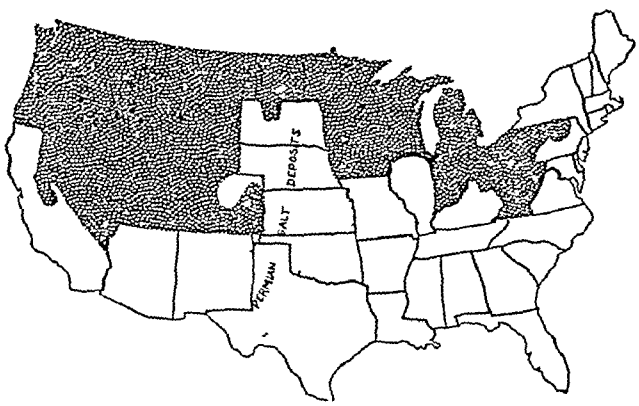


Fig. 3.—Simple goiter in the United States from data of the Draft Board. In the white area there were from 0 to 5 military goiters per thousand drafted men; in the black area from 5 to 111. The military goiter was defined as one too large to button a military collar around. In the region outlined below by the dotted line and marked Permian Salt Deposits an arm of the sea was cut off from the Pacific Ocean by the upheaval of the Rocky Mountains during the geologic age known as the Permian period. Its evaporation left extensive salt beds which have stratified owing to different solubilities of the salts as shown by gypsum deposits, rock salt and deposits high in potash (in western Texas). In very dry regions this material may reach the surface (perhaps secondarily) as shown by the potash lakes of western Texas. In moist regions all the surface salts are washed away and the deposits are reached only in drilling deep wells. The iodin that was in the sea water is mixed up more or less with the other salts; some of it apparently reaches the food and drink of mankind to make this a low goiter region. It should be noted that the black and white areas correspond roughly to those of Figure 2; the most striking difference being that of New York State. If however we had included the waters of Lake Erie and Lake Ontario which are high in iodin and excluded the waters from mountain sources in making Figure 2, the two areas would have corresponded.

Survey.[5] It has been shown that this chlorin is derived from sea spray, and if we assume that the ratio of iodin to chlorin (2 1,000,000) is the same as that in sea water, as shown by Winkler[6] and Cameron,[7] the amount of iodin derived from sea spray in the drinking water of New England amounts to only from 0.2 to 1 part per hundred billion near the coast, and to only 0.04 part per hundred billion at the border of the Great Lakes. This amount of iodin could be significant only if it were stored by food plants, and in this way concentrated for human nutrition. It is probable that the absence of goiter along the New England coast is due to the iodin

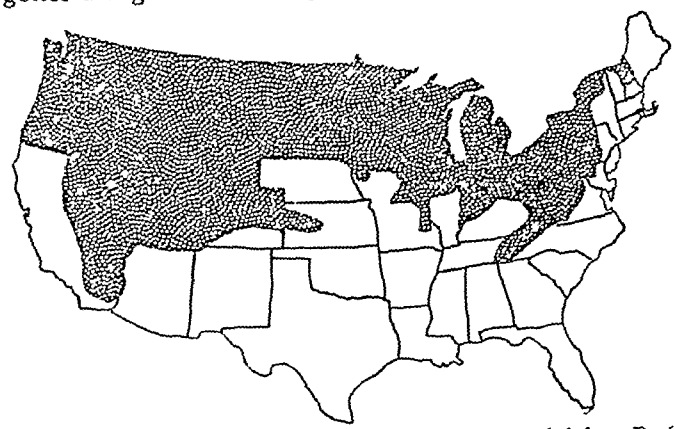

Fig. 4.—Exophthalmic goiter in the United States, compiled from Draft Board statistics. In the white area from 0 to 2.85 per thousand drafted men were reported as having exophthalmic goiter; in the black area from 2.85 to 93. It should be noted that the black and white areas correspond roughly to those of Figures 2 and 3 except for the edges of contact, but owing to the fact that there is considerable migration of the population this is to be expected.

in the soil, and that the recession of goiter that has taken place in New York State during recent times is due to the greater transportation facilities for sea food into the inland regions.

The water of the lower Great Lakes and the St. Lawrence River is high in iodin owing to human agency, but since this iodin is not used for fertilizing the soil, it is not sufficiently high to prevent goiter in the cities using the water for drinking purposes. Therefore, we have not included Lake Erie (iodin, 86), Lake Ontario (iodin, 145) and St. Lawrence water in making the water-iodin map of New York. If these were included, however, New York would be iodin-high, which would correspond with the simple goiter map where it is low in goiter. Even after purification, sewage is high in iodin, tap water at Houston, Texas, showed 6.1 iodin, whereas the effluent from both disposal plants showed about 200 iodin.

In making the map showing the regions of low iodin in water, the following analyses were omitted from the determination:

1. East Lansing, Mich., well 400 feet deep, which struck an iodin-rich deposit showing 67 parts per hundred billion.
2. St. Paul, small lake and well, iodin 83.
3. Mississippi River at Minneapolis which is rather variable in iodin content. January to December iodin 1.65, 47, 68, 57, 19, 64, 174, 50, 80 parts per hundred billion. The sewage from a population of about 100,000 passes into this water at Minneapolis and its iodin is probably mainly from "patent medicines", at any rate it is due to human agency, and yet this amount of iodin in the drinking water of Minneapolis is not sufficient to prevent goiter, since the foodstuffs are not irrigated by means of this water. A person may drink only 1 liter a day which would contain only 0.0008 mg. of iodin when the iodin content was highest, and much less than this when the iodin content was lowest. It would take at least twenty-four years to consume 40 mg. of iodin. We assume

5 Jackson, D. D., Water Supply and Irrigation Paper 144, United States Geological Survey, 1905.

6 Winkler, L. W., Ztschr. f. angew. Chem., 28, 477, 1915; 29, 68, 205, 1916.

7 Cameron, A. T., Studies from the Biological Stations of Canada, 1922, p. 75.

that a child would not take it in as rapidly as an adult, and would require more than twenty-four years to accumulate the supply for a normal thyroid

4 Cleveland, Lake Erie, iodin 86, omitted for the same reason

5 Madison, Wis, from wells showing 72 parts per hundred billion, probably partly due to human agency

6 Deep well supplying North Chicago, containing 105 parts per hundred billion, showing that it struck an iodin-rich stratum

7 Salt Sulphur Springs, W Va, iodin 4,469, unusual mineral water

8 Chicago, Sixty-Eighth Street Crib, iodin 67, probably due to contamination from boats

9 Morgantown, W Va, iodin 47

10 Greenville, Ill, deep well 127

In mapping the iodin-rich zone, the following waters were omitted

1 Brandywine Creek, supplying Wilmington, Del This is in a humid region, and probably the rain water did not have time to extract much iodin from the soil before it flowed back to the sea A single determination showed only 5 parts of iodin per hundred billion of water

2 A spring at Hot Springs, Ark, showing only 5 4 parts per hundred billion

It is interesting to note in Table 1 that the highest iodin content shown here is 18,470 times as great as the lowest This answers the objection some people have to putting minute traces of iodin in drinking water in order to prevent goiter These persons would drink water of another locality containing, say, 15,000 times as much iodin as the water of their home town, without the slightest objection, and, so far as has been observed, without the slightest ill effect From the quantity in the normal thyroid gland and the rate at which a person may drink water, we calculate that in goitrous regions the iodin should be added up to 1,000 parts per hundred billion (or 1 part per hundred million) This is easily accomplished by adding about one-tenth pound (45 gm) of sodium iodin per million gallons of water The iodin content would then be less, in fact only from one fifth to one tenth of the iodin content of drinking water of some of the cities of the United States Therefore we cannot see what objection there could be toward having the iodin content this high On the other hand, assuming a person drank a liter a day of the treated water, that would give him 0 01 mg of iodin a day, and since we found that a normal person retained about this quantity of iodin, even though the iodin of the food was entirely excreted, the iodin requirements of the individual would be satisfied Furthermore, he would probably consume 2 liters a day The water supplies of Rochester, N Y,[8] and Sault St Marie, Mich, are now being treated with sodium iodid

8 Benedict, Abner Iodine of Soda in the Drinking Water, Health Bureau, Rochester, N Y, May, 1923 p 2

**Mortality of Insured Infants**—The Metropolitan Life Insurance Company began in the spring of 1923 to insure the lives of children under 1 year of age, and during the year, about 519,000 such policies were issued The death rate was extraordinarily low, considering that these children were drawn from the wage-earning group There were 34 5 deaths per thousand lives exposed to risk under 1 year of age For the age division 9 months and under 1 year, the infant mortality rate among insured children was approximately the same as that which has prevailed among babies in the birth registration area of the United States It should be remembered that these policies for infants were effected only on healthy lives The mortality experience, therefore, does not include the great number of children born with congenital defects or affected with obvious developmental defects or acute diseases and conditions at the time of insurance

# ANEURYSMAL DILATATION OF PULMONARY ARTERY WITH PATENT DUCTUS ARTERIOSUS

## DEATH FROM RUPTURE OF ANEURYSM INTO PERICARDIAL SAC *

G L MOENCH, M D
Assistant Medical Examiner
NEW YORK

P S, a woman, aged 29, married, housewife, born in this country, had an altercation with her sister-in-law on the night of Oct 19, 1923, during which she fell to the floor, striking her head She died immediately, and the sister-in-law was arrested on the charge of homicide, pending investigation

I was notified about an hour and a half after the death of the woman Investigation revealed that she had always been fairly well, except for shortness of breath, occasional dizzy spells and attacks of fainting She had worked hard in the household, but had been under the care of a physician for what was diagnosed as chronic cardiovascular disease The family history and the past history were otherwise negative There was no history of syphilis The deceased had never had any children

The sister-in-law stated that there had been no form of violence during the altercation, the deceased having suddenly dropped to the floor without any apparent reason, and having died before the other members of the family, who were not in the room at first, arrived

Necropsy, performed at 10 o'clock next morning, revealed that the deceased had been well developed, 5 feet 6 inches (168 cm) tall and weighing around 135 pounds (61 kg) Rigor mortis was present, postmortem lividities were slight There were no external signs of violence of any kind When the thoracic cavity was opened, the pericardium was found distended with blood Further examination revealed a linear rupture, 2½ inches (63 mm) long, on the anterior surface of the pulmonary artery The edges of this tear were bluish from hemorrhagic infiltration The vessel was the seat of an aneurysmal dilatation, with a greatest diameter of more than 3 inches The ductus arteriosus was patent, easily admitting the index finger The pulmonary valve had but two cusps, but was of normal size, the internal mammary arteries were not dilated The mitral valve was thickened, particularly the aortic leaflet The aorta showed a few small, atheromatous plaques The lungs were congested and edematous, the liver showed an attempt at sequestration of the lower portion of the right lobe, the parenchyma was normal The lymph follicles of the spleen were exceptionally prominent, the whole spleen was moderately enlarged The remainder of the necropsy, outside of congestion of the brain, was negative

The anatomic diagnosis was hemopericardium following the rupture of an aneurysm of the pulmonary artery, patent ductus arteriosus, atheroma of the aorta, congestion and edema of the lungs, and congestion of the brain

The final diagnosis was ruptured pulmonary aneurysm Needless to say, the accused sister-in-law was immediately released from arrest

Aneurysm of the pulmonary artery is quite rare Many textbooks on pathologic anatomy, in fact, do not even mention the condition, others do so only in passing Aschoff[1] states that aneurysms of the pulmonary artery are common, but, from the text of his work, it is evident that he refers to the beaded condition of the branches of the pulmonary artery found especially in tuberculosis of the lungs Diffuse dilatations of the pulmonary artery and its branches occur not infrequently, but these do not represent definite aneurysms Without going into the often rather confusing details as to what constitutes an

* From the Office of the Chief Medical Examiner of the City of New York

* Read, with demonstration of specimen, before the New York Pathological Society March 13, 1924

1 Aschoff, L Pathologische Anatomie, Ed 3, 2 84

aneurysm and what does not, I think it safe to assume that such a large sized saccular dilatation of an artery as was found in the case presented here is really an aneurysm It represents the only pulmonary aneurysm in the records of the Office of the Chief Medical Examiner of the City of New York, since Jan 1, 1918 During the six years from 1918 to 1924, about 65,000 cases with almost 10,000 necropsies have been handled This is proof positive that pulmonary aneurysm is rare

Nevertheless, I found more cases of pulmonary aneurysm than I expected reported in the literature Henschen,[2] for example, in 1906, after carefully sifting the literature, compiled forty-two such cases Posselt[3] in 1909, added nine more, and gave a bibliography of seventy-six authors on the subject In addition, a few doubtful cases have been reported Nearly all the aneurysms were necropsy findings

Since 1909, a cursory review of the literature shows cases by Ploeger,[4] Warthin,[5] Foster,[6] Stoddard[7] and Pissot[8] Zak[9] describes a pulmonary aneurysm and patent ductus arteriosus, but this was diagnosed only by roentgen-ray examination, and the diagnosis was not corroborated by necropsy A number of pathologists also have found aneurysm of the ductus arteriosus associated with more or less dilatation of the plumonary artery

As far as the etiology of pulmonary aneurysm is concerned, the most important factor seems to be a patent arterial duct, and a large number of the cases reported by Henschen, Posselt and others showed such a condition, although in no instance was the duct as large as that of the one I report here Henschen also regards syphilis as an important causative agent, but Posselt does not agree with him Although age does not seem to exert much influence (the ages in the various cases varied all the way from 5 months to 80 years), pulmonary aneurysm was nevertheless most frequently found in patients between 35 and 45 years of age Unlike aortic aneurysm, pulmonary aneurysm is more frequent in women than in men, just as a patent arterial duct is oftener found in female than in male infants The cause of the patency of the ductus arteriosus must be sought in the same mechanism that keeps the foramen ovale open and, as such, is intimately connected with the local changes in blood pressure due to the respiratory efforts of the new-born Pulmonary atelectasis, therefore, undoubtedly favors a patency of the arterial duct

Contrary to what one would expect, sudden death is not common with pulmonary aneurysm, and only two cases have been reported in which the patients died from a rupture of the aneurysm In one of these, hemorrhage took place into the pleural cavity, in another, reported by Durno and Langdon Brown,[10] the hemorrhage was into the pericardium

30 East Fifty-Eighth Street

2 Henschen S E Aneurysm of Pulmonary Artery Samml klin Vortr (Volkmann) New Series 422 423 Inn Med 126 127
3 Posselt A Pathology of Pulmonary Artery, Ergebn d allg Path 13 1 1909
4 Ploeger A Aneurysm of Pulmonary Artery Frankfurt Ztschr f Path 13 1 1909
5 Warthin A S Aneurysm of Pulmonary Artery with Spirochaeta in Wall Am J Syphilis 1 693 (Oct) 1917
6 Foster N B Report of Unusual Cases with the Anatomical Diagnosis New York M J 112 77 (July 17) 1920
7 Stoddard J L A Case of Open Ductus Arteriosus (Botalli) with Necropsy Arch Int Med 16 38 (July) 1915
8 Pissot P M Contribution to the Study of Aneurysms of the Pulmonary Artery These de Paris Paris A Maloine et fils 1919 1920
9 Zak E Patent Ductus Botalli with Aneurysmal Dilatation of Pulmonary Artery Beibl z d Mitt d Gesellsch f inn Med. u Kinderh in Wien 1912 Supp 3
10 Durno and Brown Langdon A Case of Dissecting Aneurysm of the Pulmonary Artery Patent Ductus Arteriosus Rupturing into Pericardium Lancet 1 1693 (June 13) 1908

# SPEECH DEFECTS

## CLASSIFICATION AND TREATMENT AT THE UNIVERSITY OF CALIFORNIA HOSPITAL

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The study of the treatment of speech defects and disturbances has been left, for many years, to a few specialists or teachers with a limited knowledge of the causes of these disturbances Not until recent years have physicians realized the need of a speech clinic to which such cases could be referred After eight years of experience in conducting the speech defect clinic of the University of California medical department, I feel that a general discussion of this subject might be of interest

In 1915, our clinic was opened under the auspices of the pediatric department Since then the other departments also have referred to the clinic all cases needing speech improvement Every kind of a speech defect, from the simplest type—that of poor enunciation, in cases sponsored by interested teachers—to the most difficult, i e, the nervous type, has crossed the threshold of the speech clinic at the University of California Hospital

For convenience in classifying, the different speech defects may be thus arranged

1 The nervous speech disorders, under which come stammering, stuttering, cluttering, and nervous hesitation
2 Retarded speech in both normal and subnormal children
3 Infantile substitutions not caused by mouth malformations
4 Substitution of sounds or imperfect speech caused by malformations of the speech organs
5 Voice defects, not organic
6 Voice defects after certain operations, such as cleft palate or adenoid
7 Imperfect speech through partial deafness
8 Aphasia, sensory or motor
9 Foreign substitution of speech sounds, caused by foreign environment
10 Sluggish enunciation due to poor muscular coordination, which may possibly have been caused by certain diseases of childhood

### NERVOUS SPEECH DISORDERS

Of the nervous speech disorders, stammering is a spasmodic action of the speech muscles which may be manifested visibly or audibly in degrees ranging from the slightest, almost imperceptible, to the most violent contortion Stuttering, as understood in this country, is a rapid repetition of the initial sound of words Cluttering is a rapid, choppy utterance because of which certain parts of words are slurred over or lost Nervous hesitation in its very title is self-defined

These four defects, after years of struggle and fruitless experimentation, often to the detriment of the patient's health or life, have at last been properly classified as to origin German articles as recent as prewar days still confine stammering to the purely mechanical speech defect group In fact, as late as the summer of 1923, I was amazed on visiting the speech clinics of Vienna, Paris and Berlin, to find them still clinging to the mechanical aspect, advocating physical speech drills, imposing torture through the use of numerous instruments for tests of breathing, phonation and muscle stimulation—attempting everything, in fact, but the

most direct, and from my point of view, the only method that of reaching the seat of the trouble through psychologic reeducation For I am convinced, after years of history-taking and of progressive familiarity with the inner lives of hundreds of speech defectives, children and adults, that the origin of their nervous disturbances is a psychic one—perhaps a sudden shock, perhaps continued emotional disturbance

The treatment, granting this assumption, follows naturally It consists in teaching the conscious control of the speech mechanism, and, at the same time, in associating new positive ideas of control, poise and confidence The patient's obsession that his speech organs will refuse to work, his horror of being the object of ridicule, and his dread of being thought inferior—these are the three predominant fears that must be destroyed Earnest application on the part of the patient, and intelligence and understanding on the teacher's side, will bring about results in a few months

### RETARDED SPEECH IN BOTH NORMAL AND SUBNORMAL CHILDREN

The end of the third year has been set by the Germans as the extreme limit for the attainment of complete speech control This varies, however, with the individual child Our records at the university clinic show normal speech development as early as at 2 and as late as at 9 years of age

The normal child learns speech mostly through imitation, the child's accuracy depending on its sense of perception and its ear for the delicate shades of sound When the desire for imitation, which is a primal instinct, is lacking, there exists a type of retarded speech defect caller "Horstummheit" in German—dumbness without deafness Children suffering with this defect must be very tactfully handled Efforts to stimulate their imitative powers are usually of no avail, and it is only through patient, indirect teaching, the use of pictures, etc, that results are obtained

Another type of retardation in speech development when the child is normal may be caused by inattention This, bringing in its wake lack of concentration, and implying lack of, or at least dulness of perception, lays an excellent foundation for retarded speech Treatment consists in first securing the attention of the child Thereupon, auditory stimulation is fostered, the child actually being taught the elements of the spoken language, first sounds and then words Later, he is taught language structure

Cases of retarded speech in normal children are also occasionally found when there are unnaturally silent home conditions, there are instances in which on investigation, it has been found that the parents rarely speak to each other, or that the child has no companions

Subnormal children must be judged from a different point of view With them it is a question of mentality and inability to comprehend The treatment in these cases is a slow building up of word associations by means of pictures, toys, and the like This succeeds according to the degree of intelligence involved

### INFANTILE SUBSTITUTIONS NOT CAUSED BY MOUTH MALFORMATIONS

To the class of infantile substitutions not caused by mouth malformations also belong children who lack perception Mistakes in speech made in early childhood are carried on into youth and adult life, merely because the patients themselves have never realized their mistakes, or have never had their attention called to them by others Various forms of lisping come under this head Mere placing of the tongue in the right position by means of a wooden spatula, or with the use of a mirror, followed by drill, will correct this defect

### SUBSTITUTION OF SOUNDS OR IMPERFECT SPEECH CAUSED BY MALFORMATIONS OF THE SPEECH ORGANS

The substitution of sounds or imperfect speech caused by malformations of the speech organs is a defect of a purely mechanical nature In this group are harelip, feeble or very short upper lip, overshot jaw, narrow palate, cleft palate, sluggish palate, nasal obstructions, tongue-tie, and very irregular teeth The treatment in most of these cases is surgical, followed by speech reeducation

### VOICE DEFECTS—NOT ORGANIC

The voice reflects every emotional state High-pitched voices are caused by various psychologic disturbances, such as excitement, tenseness, anger or irritability Timidity, on the other hand, expresses itself by low, weak tones Nervous haste brings forth rapid, incoherent speech Sarcasm is expressed by sharpness, nervousness by choppiness, and hatred by hardness Coarseness and loudness are caused by a lack of breeding Many of the nasal tones, as characterized by speech in certain parts of the country, are purely imitative

Since this defect partakes of a dual nature, psychologic as well as physiologic, it must be approached from both standpoints An agreeable speaking voice, either the teacher's or that of a mechanical substitute such as is furnished by a phonograph, is used to create a standard for imitation Psychologic reeducation includes not only the pointing out of the basic trouble, whether it be irritability, timidity or what not, but also the supervision of the cure

### VOICE DEFECTS AFTER CERTAIN OPERATIONS, SUCH AS CLEFT PALATE OR ADENOIDS

Voice defects after operations are of common occurrence No matter how technically perfect the operation and its results, speech itself must be retrained The old speech habits due to, say, a cleft palate, are commonly clung to even when the defect has been righted For this reason, it is very important that the patient be taught to raise and lower the palate and to redirect sound, in order to develop resonance The formation of the explosive consonants, p, b, t, d, k and g, must actually be taught for the first time, since the very nature of the patient's affliction precluded the forming of these consonants

Incidentally, it has been my experience that in cleft palate, better speech is obtainable in patients who have not been operated on than in those who have, that is, when the patients who have not been operated on have been supplied with a dental contrivance that is a combination of the hard and the soft palate, fitted in like a plate The muscles in such cases are free to adjust themselves to the new apparatus, and the results from a speech standpoint are much more normal A cleft palate operation in itself may be a perfect success, but the results, as far as the flexibility of the palate is concerned, do not compare with the dental method of procedure

An unusually interesting example under this heading is the case of voice development after laryngectomy, which I recently witnessed in Vienna A woman, aged 40, whose larynx had been removed the previous year,

was seen at her work, that of a superintendent of a hospital, telephoning and giving instructions Her voice, while loud, was monotonous, carrying no inflections It sounded hoarse She had been taught to speak by developing an unusual function of the stomach Instruction had been started by the giving of soda-water, which had started gas From this belching, vowel sounds and words had been developed until a continuous sound resulted, and the patient had learned to use inhalations and exhalations at will, without recourse to the original stimulation

### IMPERFECT SPEECH THROUGH PARTIAL DEAFNESS

The first test applied to speech defectives, barring nervous speech defectives, is that of hearing The discovery of partial deafness easily accounts for imperfect speech, and the patient is promptly referred to the proper specialist If treatment on his part is of no avail, the residual hearing is developed, and lip-reading taught in the defective speech department

### APHASIA, SENSORY OR MOTOR

Complete sensory aphasia is hopeless from the point of view of treatment Partial sensory aphasia is amenable to training, according to some authors, in patients up to the age of 12 Under this heading may be mentioned certain types of poor spellers and defective readers Defects in visual perception, which are the cause of poor spelling, for instance, are approached by means of unusual size or color of type or lettering, thus emphasizing the troublesome letters

Complete motor aphasia, since memory for the required speech action is gone, is also hopeless Some patients with partial motor aphasia can be improved by exercises in muscular coordination and conscious word development

### FOREIGN SUBSTITUTION OF SPEECH SOUNDS CAUSED BY FOREIGN ENVIRONMENT

Each language has its definite tone inflection and its peculiar mouth action In learning a new language, the student often carries over the habits of his own language, or substitutes the nearest sound if in doubt of the new sound formation German and French, for instance, require greater action of the lips, English of the tongue and jaw, the Oriental languages call for practically no jaw action The treatment is direction of attention to the existing facts, ear training, and correct tongue and lip positions

### SLUGGISH ENUNCIATION, DUE TO POOR MUSCULAR COORDINATION

Poor muscular coordination may be either physiologic or mental in origin Physiologic sluggishness may be caused by an inertness of the speech muscles, often accompanied by mental inertness, or result from diseases of childhood, such as diphtheria, infantile paralysis or hemiplegia The method of approach in such cases is a gymnastic one Carefully organized and directed mouth gymnastics, followed by speech sounds and words, are repeated until greater flexibility and precision of movement are obtained

### CONCLUSIONS

Certain truths stand out preeminently Again and again, I have found physicians who have advised anxious parents of children coming under one of the foregoing categories to wait, that they would "outgrow it" Nothing is more harmful than this waiting The older the child grows, the more established and the firmer rooted does the speech defect habit become If it is of a mechanical nature, early surgical intervention is advisable—nothing is gained by waiting Only when the cases are light ones, caused by imitation, or when the increasing mental development of the child enables him to see and to correct his own mistake, are the defects "outgrown"

Waiting has another harmful angle Any one of the aforementioned nervous speech disorders, if allowed to continue, has a destructive effect on the patient's morale He becomes a warped, self-conscious and negative individual, full of fears At times these fears are repressed, causing neuroses All of these nervous speech disorders are curable if attacked in the right way by the right instructor Their origin is psychologic, and psychologic reeducation is their solution

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## EFFECT OF EXPOSURE TO LOW TEMPERATURES ON DIPHTHERIA TOXIN-ANTITOXIN MIXTURE*

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Early in the last week of January of the present year, an experience due to a peculiar set of unique and fortuitous circumstances occurred which could not have been anticipated by the application of any knowledge then existing In two towns in Massachusetts, two different lots of diphtheria toxin-antitoxin mixture, after having suffered prolonged exposures to unusually low temperatures, were injected into a total of fifty-four children for the purpose of immunizing them against diphtheria, and produced severe reactions in forty-two of them Both the local and the systemic reactions were typical of diphtheria intoxication

All the facts strongly suggested the hypothesis that the exposure to temperatures below freezing had caused the antitoxin to dissociate from the toxin, leaving free toxin present in the mixture In order to determine the validity of this hypothesis, the experiments here reported were carried out

### I PREPARATION OF THE TOXIN-ANTITOXIN MIXTURE

The mixtures were made according to the recommendations issued by the United States Hygienic Laboratory The details of the preparation of one of the mixtures (100 T) were as follows The toxin made from *B coli* fermented veal infusion broth containing 2 per cent proteose peptone had been aged for nineteen and one half months It originally had a minimal lethal dose of ± 0 0025 c c, and at the time it was used in making the mixture its L + dose was 0 19 c c To 1,475 c c of this toxin was added 5 48 c c of concentrated antitoxic globulin, twenty-two and one half months old, and containing approximately 1,250 antitoxin units per cubic centimeter The antitoxin was diluted just before its addition to the toxin with 5,900 c c of sterile 0 85 per cent sodium chlorid solution containing 0 4 per cent phenol (carbolic acid) The total volume of the mixture was 7,400 c c, and each cubic centimeter contained approximately 1 05 L + doses of toxin The mixture was made, Nov 11, 1923, filtered

* From the Massachusetts Department of Public Health, Antitoxin and Vaccine Laboratory

forty-eight hours later, and at this stage showed an excess of free toxin greater than the amount desired Subsequent additions of 0 2, 0 05, 0 1, and 0 05 c c of the same antitoxin diluted 1 100 with a similar salt solution were made to the mixture, with the usual guinea-pig tests after each addition of antitoxin The product as finally adjusted was within the limits of toxicity as specified in the regulations of the United States Hygienic Laboratory, and all tests showed it to be a satisfactory mixture This product was used in one large clinic (1,700 doses) and in various parts of the state with uniformly satisfactory results

## II TESTS ON THE PRODUCT CAUSING THE REACTIONS

One vial from the reserve laboratory stock of the particular lot concerned in the experience noted (Test 1) and one vial of the same lot (Test 2), which had been subjected to the same set of circumstances to which the material giving the reactions had been subjected, were tested for toxicity

TABLE 1—*Results of Tests on Product Causing Reactions*

Test 1—Toxin Antitoxin Mixture 100 T, Not Frozen

| Pig No | Weight, Gm | Amount In jected, C c | Day of Par alysis | Day of Death | Cause | Comment |
|---|---|---|---|---|---|---|
| 3398 | 275 | 5 0 | | 6 | Toxic ? | |
| 3420 | 275 | 5 0 | | 5 | Acute toxic | Intraperitoneal injection ? |
| 3394 | 275 | 1 0 | 19 | 29 | Toxic | |
| 3408 | 275 | 1 0 | 19 | 26 | Toxic | Pregnant |

Test 2—Toxin Antitoxin Mixture 100 T, Frozen

| | | | | | | |
|---|---|---|---|---|---|---|
| 3385 | 265 | 5 0 | | 2 | Acute toxic | |
| 3392 | 265 | 5 0 | | 2 | Acute toxic | |
| 3414 | 295 | 1 0 | | 5 | Toxic | |
| 3410 | 265 | 1 0 | 13 | 27 | Toxic + pneumonia | |
| 3396 | 270 | 0 5 | 13 | 27 | Toxic + pneumonia | |
| 3409 | 275 | 0 5 | 18 | 25 | Toxic + pneumonia | |
| 3422 | 250 | 0 1 | | | | Released 41st day no paralysis at any time |
| 3424 | 265 | 0 1 | | | | Released 41st day no paralysis at any time |

The results of Test 1 were similar to the original predistribution tests, and show that the strength of this mixture was within the limits specified by the federal regulations Test 2 shows that the mixture contained in the vial that had the same postdistribution history as the material causing the reactions had developed approximately a tenfold increase in toxicity

## III EFFECT OF FREEZING ON THIS MIXTURE

EXPERIMENT 1—Three vials from the reserve stock of the Antitoxin and Vaccine Laboratory one L + diphtheria toxin-antitoxin mixture Lot 100 T were placed in a freezer at a temperature of 8 F One vial was removed after being in the freezer three hours and fifty minutes, and was found to be frozen solid It was thawed slowly at room temperature, and on thawing was found to be perfectly clear Another vial was removed after being in the freezer eighteen hours and twenty-five minutes This vial also was frozen solid, but showed a cream white sediment in the ice at the border of the air space in the vial On thawing, some translucent gelatinous particles were observed in the fluid, and there was also an actual flocculation of opaque particles, which settled to the bottom of the vial on standing The contents of the first vial were then injected (Test 3) subcutaneously into guinea-pigs according to the usual procedure for testing the potency of this product, and at the same time one vial from the reserve stock (Test 1) which had not been frozen was similarly tested as a control On the following day the second vial (Test 4), which had been in the freezer for eighteen hours and twenty-five minutes, was injected into guinea-pigs

TABLE 2—*Results of Experiment 1*

Test 3—Toxin Antitoxin Mixture 100 T, Frozen 3 Hrs and 35 Min

| Pig No | Weight, Gm | Amount In jected, C c | Day of Par alysis | Day of Death | Cause | Comment |
|---|---|---|---|---|---|---|
| 3395 | 280 | 5 0 | | 6 | Toxic | |
| 3397 | 280 | 5 0 | | 9 | Toxic | |
| 3400 | 280 | 1 0 | 22 | 27 | Toxic | |
| 3417 | 295 | 1 0 | 19 | 29 | Toxic | Bloody peritoneal effusion |

Test 4—Toxin Antitoxin Mixture 100 T, Frozen 18 Hrs and 25 Min

| | | | | | | |
|---|---|---|---|---|---|---|
| 3325 | 250 | 5 0 | | 1 | Acute toxic | Died in less than 33 hrs |
| 3351 | 255 | 5 0 | | 1 | Acute toxic | Died in less than 21 hrs |
| 3398 | 260 | 1 0 | | 2 | Acute toxic | Died in less than 33 hrs |
| 3390 | 265 | 1 0 | | 2 | Acute toxic | Died in less than 45 hrs |
| 3391 | 275 | 0 5 | | 2 | Acute toxic | Died in less than 45 hrs |
| 3399 | 285 | 0 5 | | 3 | Acute toxic | Died in less than 69 hrs |
| 3413 | 255 | 0 1 | | 13 | Pneumonia | |
| 3418 | 260 | 0 1 | | 5 | Acute toxic | Intramuscular injection |

The results show that

1 Toxin-antitoxin mixture Lot 100 T was within the limits of toxicity approved by the United States Hygienic Laboratory

2 Exposure to a temperature of approximately 8 F for three hours and thirty-five minutes, rendering the fluid frozen, caused no appreciable change in the appearance or the toxicity of the mixture

3 Exposure to a temperature of approximately 8 F for eighteen hours and twenty-five minutes caused about a tenfold increase in the toxicity of the mixture

EXPERIMENT 2—In order to determine whether or not the increased toxicity of the frozen mixture was due to a liberation of diphtheria toxin or to the formation of some other poisonous substance, a vial of the same lot number of the same product which had been subjected to a freezing temperature for eighteen hours and twenty-five minutes was injected into guinea-pigs, other guinea-pigs received this mixture and, in addition, diphtheria antitoxin If the original hypotheses were correct, the guinea-pigs receiving the frozen mixtures should show accelerated death, while those receiving the frozen mixture plus the antitoxin should not be affected The protocol of this experiment follows

TABLE 3—*Results of Experiment 2*

Test 5—Toxin Antitoxin Mixture 100 T, Without or With Added Antitoxin

| Pig No | Weight, Gm | Amount T A Mixture, C c | A U Added | Day of Death | Cause | Comment |
|---|---|---|---|---|---|---|
| 3303 | 260 | 5 0 | | 2 | Acute toxic | Died in less than 39 hours |
| 3306 | 255 | 1 0 | | 2 | Acute toxic | Died in less than 39 hours, pneumonia ? |
| 3333 | 265 | 5 0 | ±25 | | | No local reaction or paralysis at any time released on 38th day |
| 3335 | 260 | 5 0 | ±25 | | | |
| 3340 | 265 | 1 0 | 1 | | | |
| 3352 | 255 | 1 0 | 1 | | | |
| 3354 | 255 | 0 5 | 1 | | | |
| 3404 | 250 | 0 5 | 1 | 37 | Peritonitis | |

This experiment shows that

1 The mixture after prolonged freezing became toxic

2 The addition, however, of so small an amount of antitoxin as one unit to one human dose of the toxic mixture entirely protected the animals against any toxic reaction, and, therefore, it is safe to conclude that the toxicity of the frozen mixtures is due to the liberation of free diphtheria toxin

EXPERIMENT 3—In order to determine whether or not this change in toxicity after freezing was a peculiarity of one particular lot, an experiment similar to Experiment 1 was

carried out with Lot 100 X, which lot was made from the same toxin and the same antitoxin used in Lot 100 T

TABLE 4.—*Results of Experiment 3*

Test 6.—Toxin Antitoxin Mixture 100 X Not Frozen

| Pig No | Weight Gm | Amount Injected, C c | Day of Paralysis | Day of Death | Cause |
|---|---|---|---|---|---|
| 3472 | 275 | 5 0 | 15 | 18 | Toxic + pneumonia |
| 3478 | 300 | 5 0 | 15 | 18 | Toxic + pneumonia |
| 3279 | 305 | 5 0 | 12 | 14 | Toxic |
| 3260 | 285 | 1 0 | 15 | 23 | Toxic |
| 3261 | 290 | 1 0 | 15 | 25 | Toxic + pneumonia |
| 3270 | 335 | 1 0 | 15 | 23 | Toxic |

Test 7.—Toxin Antitoxin Mixture 100 X Frozen 4 Hrs and 45 Min

| | | | | | |
|---|---|---|---|---|---|
| 3401 | 290 | 5 0 | | 3 | Acute toxic |
| 3703 | 250 | 2 5 | | 9 | Toxic |
| 3709 | 280 | 1 0 | | 16 | Pneumonia |

Test 8.—Toxin Antitoxin Mixture 100 X Frozen 6 Hrs and 50 Min

| | | | | | |
|---|---|---|---|---|---|
| 3715 | 295 | 5 0 | | 3 | Acute toxic |
| 3729 | 305 | 2 5 | | 4 | Acute toxic |
| 3744 | 295 | 1 0 | 14 | 23 | Toxic |
| 3761 | 290 | 0 5 | 17 | 25 | Toxic + pneumonia |

Test 9.—Toxin Antitoxin Mixture 100 X Frozen 26 Hrs. and 30 Min

| | | | | | |
|---|---|---|---|---|---|
| 3768 | 275 | 5 0 | | 3 | Acute toxic |
| 3763 | 290 | 2.5 | | 5 | Acute toxic |
| 3764 | 285 | 1 0 | 17 | 25 | Toxic + pneumonia |
| 3765 | 270 | 0 5 | 17 | 25 | Toxic (+ pneumonia ?) |

Test 10.—Toxin Antitoxin Mixture 100 X Frozen 50 Hrs and 45 Min

| | | | | | |
|---|---|---|---|---|---|
| 3762 | 315 | 5 0 | | 2 | Acute toxic |
| 3769 | 275 | 2 5 | | 2 | Acute toxic |
| 3770 | 260 | 1 0 | | 4 | Acute toxic |
| 3771 | 330 | 0 5 | 14 | 22 | Toxic |

Test 11.—Toxin Antitoxin Mixture 100 X Frozen 74 Hrs and 45 Min Supernatant Fluid Only

| | | | | | |
|---|---|---|---|---|---|
| 3772 | 320 | 2 5 | | 2 | Acute toxic |
| 3773 | 260 | 1 0 | | 2 | Acute toxic |
| 3774 | 265 | 0 5 | | 3 | Acute toxic |

Test 12.—Toxin Antitoxin Mixture 100 X Frozen 74 Hrs and 45 Min, Sediment Only

| | | | |
|---|---|---|---|
| 3775 | 285 | 15 | No local or general reaction released 38th day |
| 3776 | 260 | 7 5 | |
| 3788 | 260 | 3 | |

This experiment shows that

1 Freezing caused the liberation of toxin in this lot of the product

2 The increase in the toxicity runs parallel to the length of exposure to freezing temperatures within the limits studied This experiment also shows that by separating from the mixture the sediment which had formed as a result of freezing, and, therefore, removing any possible neutralizing action of the separated antitoxin, the fluid has a greatly heightened toxicity

EXPERIMENT 4.—In order to pursue further the question involved in Experiment 3, another lot of one L + diphtheria toxin-antitoxin (100 Z), made with a different toxin and antitoxin from those used in the preparation of lots 100 T and 100 X, was subjected to freezing temperatures

This experiment shows that

1 The lot was within the Hygienic Laboratory limits for potency, but was nearer the lower border of toxicity

2 A short exposure to freezing (six hours) produced a slight increase in toxicity, and this increase was augmented by a longer period of freezing

3 Prolonged freezing (twenty-eight days) not only failed to cause any deterioration of the free toxin but apparently actually increased the toxicity of the mixture

The foregoing experiments show plainly that freezing for a sufficiently long period (six hours or more) results in an increase in the toxicity of one L + mixtures Several experiments have been carried out with three L + and one-tenth L + mixtures to determine the effect of freezing in these strengths The results so far are conflicting and will be reported later when further data are at hand

That antitoxin is thrown out of solution by freezing is demonstrated by some experiments in which the various constituents of toxin-antitoxin mixtures were frozen separately For these experiments the following preparations were made

1 Concentrated diphtheria antitoxin, undiluted
2 Concentrated diphtheria antitoxin, diluted 1 100
3 Concentrated diphtheria antitoxin, diluted 1 2,400 (the dilution present in one L + toxin-antitoxin)
4 Toxin broth, diluted 1 4
5 Diphtheria toxin, undiluted
6 Diphtheria toxin, diluted as in the toxin-antitoxin mixture

Dilutions were made with 0 85 per cent saline solution containing 0 4 per cent phenol

Undiluted concentrated antitoxin became slightly turbid after freezing for sixteen and one half hours Diluted antitoxin showed a definite precipitation, and the precipitate did not go back into solution even after prolonged standing The toxin broth showed a precipitate when thawed, which redissolved when the temperature of the fluid reached 15 C Although a precipitate was formed in the toxin, this precipitate disappeared following thawing

TABLE 5.—*Results of Experiment 4*

Test 13.—Toxin Antitoxin Mixture 100 Z Not Frozen

| Pig No | Weight Gm | Amount Injected C c | Day of Paralysis | Day of Death | Cause |
|---|---|---|---|---|---|
| 3932 | 290 | 5 0 | 14 | 26 | Toxic |
| 3940 | 255 | 5 0 | 14 | 21 | Toxic + pneumonia |

Test 14.—Toxin Antitoxin Mixture 100 Z Frozen 6 Hours

| | | | | | |
|---|---|---|---|---|---|
| 3894 | 290 | 5 0 | | 4 | Acute toxic |
| 3895 | 255 | 2 5 | 12 | 17 | Toxic + pneumonia |
| 3917 | 290 | 1 0 | 17 | | |
| 3928 | | 0 5 | 17 | | |

Test 15.—Toxin Antitoxin Mixture 100 Z Frozen 28 Hours

| | | | | | |
|---|---|---|---|---|---|
| 3864 | 265 | 5 0 | | 2 | Acute toxic |
| 3874 | 255 | 2 5 | | 2 | Acute toxic |
| 3879 | 295 | 1 0 | | 7 | Toxic ? pneumonia ? |
| 2887 | 260 | 0 5 | 13 | 24 | Toxic |

Test 16.—Toxin Antitoxin Mixture 100 Z Frozen 77 Hours

| | | | | | |
|---|---|---|---|---|---|
| 3805 | 250 | 5 0 | | 2 | Acute toxic |
| 3816 | 295 | 2 5 | | 2 | Acute toxic |
| 3845 | 260 | 1 0 | | 2 | Acute toxic |
| 3858 | 295 | 0 5 | | 3 | Acute toxic |

Test 17.—Toxin Antitoxin Mixture 100 Z Frozen 77 Hours Supernatant Fluid Only

| | | | | | |
|---|---|---|---|---|---|
| 3942 | 290 | 5 0 | | 2 | Acute toxic |
| 3943 | 260 | 2 5 | | 2 | Acute toxic |
| 3945 | 250 | 1 0 | | 2 | Acute toxic |
| 3950 | 255 | 0 5 | | 3 | Acute toxic |

Test 18.—Toxin Antitoxin Mixture 100 Z Frozen 28 Days

| | | | | | |
|---|---|---|---|---|---|
| 4174 | 285 | 5 0 | | 1 | Acute toxic |
| 4183 | 285 | 2 5 | | 1 | Acute toxic |
| 4189 | 275 | 1 0 | | 2 | Acute toxic |
| 4191 | 290 | 0 5 | | 3 | Acute toxic |
| 4220 | 295 | 0 25 | | 2 | Acute toxic |

COMMENT

The exposure of one L + toxin-antitoxin mixtures (prepared according to the method described) to temperatures below the freezing point causes a marked increase in the toxicity of these mixtures if the exposure is sufficiently prolonged This toxicity is due to the dissociation of the toxin and antitoxin combination With this dissociation, a part, at least, of the antitoxin becomes insoluble, and it therefore no longer possesses its full neutralizing power This condition results in the presence in the solution of an increased proportion of the originally combined toxin now in the form of

free toxin This phenomenon was not peculiar to any one lot whether made as was the one originally used or from a different toxin and a different antitoxin

Several questions raised by the experimental results must remain unanswered until further evidence is available Among these are the effect of injecting mixtures that have been kept at room or icebox temperature for varying intervals following thawing, the temperature at which toxin-antitoxin mixture freezes, the effect of exposure of mixtures to different temperatures, the effect of freezing on three L + and one-tenth L + mixtures, and the possible reversability of the reaction

SUMMARY

1 The exposure of toxin-antitoxin mixtures to temperatures of 10 F or less for periods of six hours or more causes a turbidity which arises from the separation and precipitation of antitoxin and, possibly, other substances

2 In the case of one L + mixtures there is associated with the physical change an increase of toxicity due to freed toxin

## OBSERVATIONS ON THE EFFECT OF FREEZING ON DIPHTHERIA TOXIN-ANTITOXIN MIXTURES *

MARY B KIRKBRIDE
AND
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Such widespread publicity has been given to a recent report of serious reactions following the injection of a diphtheria toxin-antitoxin mixture which had been exposed to an extremely low temperature that it is feared the general use of this most valuable prophylactic agent may be affected It has been assumed that, as a result of freezing, the toxin and antitoxin became dissociated, thereby increasing the toxicity of the mixture It is well known that diphtheria toxin is extremely labile and subject to deterioration Hence, any evidence of increased toxicity in a mixture of toxin and antitoxin would very naturally suggest some form of dissociation It is therefore important to record without delay the results of a careful experimental study of the effect of freezing on the toxicity of such preparations

The original toxin-antitoxin mixture that was used in prophylaxis against diphtheria contained undiluted toxin, the number of L + [1] doses in each cubic centimeter depending on the potency of the toxin used Later a mixture diluted with salt solution to contain three L + doses was generally adopted Recently a reduction has been made to one L + and even to one-tenth L + Up to the present time this laboratory has continued to use the three L + mixture for routine distribution

In March, 1922, a sample of mixture containing approximately five L + doses per cubic centimeter was frozen experimentally to ascertain whether material shipped during severe cold to distant parts of the state could safely be used In this experiment, a precipitate formed after freezing, but there was no evidence of increased toxicity In view of the recent report, however, the experiment has been repeated and extended to embrace the study of sixteen lots of the three L + mixture, together with three samples of one-tenth L + mixture and one of the one L + mixture for purposes of comparison All the material was prepared in this laboratory with the exception of one sample of the one-tenth L + mixture, which was obtained from Dr William H Park of the New York City Research Laboratories

Forty-nine tests were made with the sixteen samples of the three L + material, five with one-tenth L + and one with the one L + during February and March In the latter part of February, an epizootic infection developed in the guinea-pigs, obscuring the results of a few of the experiments, but in no instance was there any evidence of a definite increase in toxicity that could be attributed solely to the exposure of the mixture to temperatures as low as 0 F for periods varying from a few minutes to seventy-two hours On the contrary, the greater number of the experiments showed a slight but definite decrease in toxicity

The mixtures selected for the experiments were exposed to temperatures below freezing of approximately 22 F, from 16 to 20 F, and 0 F (—5 6 C, from —8 9 to —6 7 C, and —17 C) for very short periods and for periods of three, from eighteen to twenty-four, and seventy-two hours All the samples frozen at 0 F were held at that temperature for three days Also the intervals between the time at which the samples had become melted and their injection were varied Thus, in several tests the first fraction to melt was drawn off and injected at once, in others, the material was injected as soon as it had completely melted, or after one, four or twelve days in the cold room

In order to ascertain whether any differences in toxicity could be detected from the injection of mixtures in which the precipitate, which forms on exposure to freezing temperatures, was in suspension or had largely or entirely settled out, series of tests with the cloudy material or the clear supernatant fluid were made [2]

Most of the control samples of the mixtures, when injected into guinea-pigs in 5 c c amounts at the time of the test or a month or two previously, induced moderate to severe local reactions and late paralysis with death, usually in from sixteen to twenty-eight days, or paralysis without death when doses of 1 c c were used For purposes of comparison, also very weak mixtures inducing only local reactions and very slight paralysis without death in 5 c c doses, and more toxic mixtures causing acute death within from four to six days were frozen and tested

In each series, with one exception, the volume injected was always 5 c c In the case of the more toxic samples, however, doses also of 1 c c were given

I Both the less toxic and the more toxic samples of one-tenth L + mixture, after having been subjected to moderate or severe freezing for longer or shorter periods, invariably showed marked reduction in toxicity This was true of both the local and the late reactions

II The sample of one L + mixture was subjected to severe cold for three hours, then melted and injected immediately Both the local and the later reactions induced were much less marked than those in the controls

III Two lots of three L + mixture of moderate toxicity were frozen at approximately 16 to 22 F for three and for twenty-four hours The liquid portion of a partially melted

* From the Division of Laboratories and Research New York State Department of Health, Augustus Wadsworth, M D, director

1 Lethal toxin antitoxin

2 In all tests in which mixtures were frozen three hours or longer, a precipitate formed that in the three L + material was always quite heavy and easily apparent when the mixtures were shaken, that in the one L + mixtures was less and in the one tenth L + mixture, while present, was occasionally so slight that it might be readily overlooked

sample was tested, and also the completely melted mixtures at once and after they had been held in the cold room for twenty-four hours Of the twelve guinea-pigs injected, all developed late paralysis but only one died, on the eighteenth day, and that showed evidence of infection at necropsy Two additional samples of one of the mixtures that had been frozen under the same conditions were held in the cold room for one week Sufficient clear supernatant fluid for the tests was removed from each and injected into a series of guinea-pigs The portions that remained were then shaken and injected into another series There was no evidence of increased toxicity, but rather a decrease in both series, though one or two animals showed local reactions equal to or slightly more marked than in the controls

IV As a matter of routine before being released for distribution, ten different lots of three L + mixture were exposed to temperatures of approximately 22 F for a short time and to from 16 to 20 F for forty-eight hours, melted at room or cold room temperature, and injected at once or after twenty-four hours In no instance did acute death occur, nor were the local or the later symptoms any more marked than those in the control guinea-pig On the contrary, in most instances the reactions were definitely milder

V Ten lots of three L + mixture were frozen at 0 F for seventy-two hours, melted gradually, that is, in about six hours, and injected at once, and also in the case of three mixtures, after they had stood twenty-four hours in the cold room A few lots were retested after several days at cold room temperature In this series, deaths from concurrent infection have complicated the results However, no deaths due to infection developed among the guinea-pigs receiving four of the ten lots tested

1 These four mixtures included a very mild mixture, two mixtures in which the control guinea-pigs had died in twenty-four days and one in which they had died in less than five days In none of these mixtures was there any evidence of a definite increase in toxicity While in certain guinea-pigs the local reactions induced equaled or somewhat exceeded those in the controls, the later symptoms were invariably slighter None of the guinea-pigs died in less time than the controls

2 In tests on each of three other mixtures treated similarly, one guinea-pig receiving 5 c c of mixture died in less than eight days, but in each instance one or more pigs of the same series lived over twelve days and practically all that died showed evidence of infection

3 The tests on the three remaining mixtures, consisting of a slightly toxic, a moderately toxic and a markedly toxic mixture, were obscured by infection prevalent among the guinea-pigs Five tests were made on the slightly toxic mixture frozen on three separate occasions In two of the three tests made as soon as the mixture was melted, all but one of the pigs died acutely, and organisms of the concurrent infection were isolated from several In the third test, none died early, but all gave evidence of infection at necropsy In the two remaining tests made after the mixture had stood four and twelve days in the cold room, none died in less than ten days, and two of three animals showed evidence of pneumonia

4 All three guinea-pigs injected with the more toxic mixture immediately after it had melted died in less than six days with symptoms of pneumonia, while the control died in over nine days Control and test animals receiving 1 c c of the mixtures lived In all the test guinea-pigs the local reactions were equal to or usually more marked than in the control animals

5 In two tests on the moderately toxic mixture injected at once after melting, all the guinea-pigs receiving 5 c c died in less time than the controls, and three died acutely All but one, however, showed signs of pneumonia. Of the four pigs injected after the frozen mixture had stood four or twelve days in the cold room, two lived over twenty-five days

Under the conditions of these experiments as determined by the usual test of toxicity, there is no evidence of increased toxicity of the mixture, which can be definitely attributed to dissociation of the toxin and the antitoxin as a result of freezing

## EFFECT OF FREEZING ON DIPHTHERIA TOXIN-ANTITOXIN MIXTURES

### AS REGARDS TOXICITY *

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Early in January, 1924, it was reported [1] that, following the administration of diphtheria toxin-antitoxin that had been frozen, there developed in children, some forty in number, severe local reactions and constitutional disturbances According to the tests made in the state board of health laboratory of Massachusetts and in the Hygienic Laboratory in Washington, it was found that when the unfrozen preparation was injected into guinea-pigs, a normal reaction was experienced, but that after freezing, the material became toxic The diphtheria toxin-antitoxin used in these cases, and which developed toxicity after freezing, contained one L + dose of toxin partially neutralized with antitoxin Occasionally some workers have reported that diphtheria toxin-antitoxin mixtures have become more toxic on keeping, but the majority have believed that these observations are erroneous The occurrences in Boston make quite possible an explanation as to the reason for the occasional observation of increased toxicity on the keeping of diphtheria toxin-antitoxin, as the mixture may have at some time unknown been frozen As it is an important practical question to decide definitely whether all lots of diphtheria toxin-antitoxin increase in toxicity on freezing when prepared according to the different formulas containing three L + doses of toxin, one L + dose of toxin or one-tenth L + dose of toxin, we undertook investigations of the various factors that might be connected with the increase in toxicity

We have tested a number of lots of diphtheria toxin-antitoxin containing both three L + doses of toxin, and one-tenth L + dose of toxin, both before and after freezing, in order to determine whether there was any increase or decrease in toxin after freezing In the manufacture of these lots of diphtheria toxin-antitoxin, highly purified diphtheria globulin prepared according to a modified Banzhaf-Gibson process of concentration had been used, and they had been stored for varying periods of time before the experiments were begun

There were examined samples representing fifteen lots, prepared with three L + doses of toxin, and eight lots prepared with one-tenth L + dose of toxin, all containing 0 3 per cent tricresol as a preservative The various lots were frozen for periods varying from eighteen to ninety-six hours at temperatures varying from slightly below freezing to minus 5 C In none of the lots mentioned was there found an increase in toxicity after freezing, in fact, there was observed, in some instances, a decrease in toxicity after freezing, so that a lot which, before freezing, caused acute death in 1 c c, required larger doses to produce acute death

All the lots of diphtheria toxin-antitoxin mixture taken from stock showed a precipitate varying from a slight haze to a heavy precipitate after freezing, although this was very much less in the case of lots prepared containing one-tenth L + dose of toxin

* Read before joint meeting of the Association of Pathologists and Bacteriologists and the Association of Immunologists Buffalo April 17, 1924

1 Kelley E. R Frozen Toxin Antitoxin Reactions, J A. M A 82 567 (Feb 16) 1924

### INFLUENCE OF DIFFERENT PRESERVATIVES ON DIPHTHERIA TOXIN-ANTITOXIN AFTER FREEZING

After the heavy precipitate had been observed following freezing in mixtures containing three L + doses in which 0 3 per cent tricresol was used as a preservative, we prepared two lots of diphtheria globulin containing about three units in each cubic centimeter, the usual amount of salt solution but no toxin being added To one portion, 0 3 per cent tricresol was added as a preservative, and in the other no preservative was used Both lots were frozen to minus 5 C for sixteen hours, at the end of which time they were allowed to thaw at room temperature The portion containing 0 3 per cent tricresol showed a heavy precipitate, while that portion with no preservative was unchanged in appearance after freezing From this it will be seen that the freezing of diphtheria globulin containing 0 3 per cent tricresol resulted in a partial precipitation of the proteins which on thawing would not go into solution on thorough shaking

In order to test out the influence of various preservatives on mixtures containing diphtheria toxin-antitoxin, we prepared several lots of diphtheria toxin-antitoxin containing three L + doses and one-tenth L + dose of toxin, using as a preservative 0 3 per cent tricresol, 0 5 per cent chlorbutanol and 0 5 per cent chloroform, and a portion without a preservative All of these preparations were frozen at minus 5 C for twenty-four hours, and at the end of that time they were allowed to thaw at room temperature On examination, it was found that none of the mixtures containing one-tenth L + dose showed any marked change in appearance, but a change was apparent in the mixture containing three L + doses to which tricresol, 0 3 per cent, chlorbutanol, 0 5 per cent, and chloroform, 0 5 per cent, were added, all showing a heavy precipitate, while the preparation containing three L + doses of toxin with no preservative showed only a slight haze or cloudiness Toxicity of the lots prepared as described was tested on guinea-pigs, and in no instance was there found any increase in toxicity, while some of the mixtures were less toxic after freezing than before

### EFFECT OF FREEZING ON MIXTURES PREPARED WITH UNCONCENTRATED DIPHTHERIA ANTITOXIN

Since none of the lots of diphtheria toxin-antioxin, prepared with globulin, containing either three L + doses or one-tenth L + dose of toxin in which various substances had been used as a preservative, and in lots without preservative, developed toxicity on freezing, we made a series of tests of mixtures using whole or unconcentrated serum as antitoxin

Two different lots of unconcentrated antitoxin were used for the preparation of mixtures containing three L + doses and one-tenth L + dose of toxin, 0 3 per cent tricresol being used as a preservative Samples of the mixtures prepared as stated above were frozen for ninety-six hours at minus 5 C, together with samples prepared with a highly refined diphtheria globulin It was found that, when these mixtures were allowed to thaw at room temperature, all those containing three L + doses of toxin showed a heavy precipitate, but that there was only a slight change in the appearance of the mixtures containing one-tenth L + dose of toxin

The results with the tests of the mixtures after freezing showed that [illegible] was no change in toxicity in the mixtures in which the diphtheria globulin had been used containing either one-tenth L + dose or three L + doses of toxin, unless possibly a slight decrease in toxicity

Both of the mixtures containing three L + doses of toxin prepared with unconcentrated serum had developed a great increase in toxicity after freezing, so that while 5 c c did not cause acute death in the unfrozen material, 1 c c, after freezing, caused death of all the guinea-pigs in two days or less

To 1 c c of the material that had developed increased toxicity on freezing was added five units of diphtheria antitoxin, and the mixture, after thorough shaking, was allowed to stand for thirty minutes, and then injected into guinea-pigs Such a mixture did not kill the guinea-pigs even in 5 c c doses, thus showing that the toxicity that had developed after freezing was due to free diphtheria toxin that was neutralized by the addition of antitoxin It is to be noted that many of the animals injected with this mixture developed late paralysis

The foregoing experiments were repeated, the only change being in the time of freezing, which was reduced from ninety-six to eighteen hours, and the results obtained were practically as before In every case, the mixtures in which unconcentrated antitoxin was used became more toxic, whether frozen for eighteen hours or for ninety-six hours None of the mixtures prepared with unconcentrated antitoxin with only one-tenth L + dose of toxin developed increased toxicity on freezing

Experiments were made to determine what influence, if any, the different kinds of preservative might have on mixtures after freezing, prepared with three L + doses of toxin and an unconcentrated antitoxin

Lots of diphtheria toxin antitoxin prepared with three L + doses of toxin and unconcentrated antitoxin, 0 5 per cent chlorbutanol and 0 5 per cent chloroform being used, and without any preservative, were prepared and frozen for seventy-two hours at minus 5 C In no case was there found any increase in toxicity in any of the lots so prepared

Two lots of diphtheria toxin-antitoxin mixture containing three L + doses of toxin, unconcentrated antitoxin being used, were prepared, 0 5 per cent phenol (carbolic acid) being used as a preservative, and frozen at minus 5 C for twenty-four hours After thawing, the mixtures contained a heavy precipitate These two lots of antitoxin prepared and frozen as stated above were tested with the result that it was found that, whereas before freezing 5 c c did not cause acute death in guinea-pigs, 1 c c after freezing caused death in less than two days

From the foregoing experiments, it is clear that mixtures of toxin-antitoxin containing three L + doses of toxin prepared from unconcentrated antitoxin in which tricresol and phenol are used become toxic after freezing, whereas when chlorbutanol and chloroform are used, or when no preservative is added, there develops no increase in toxicity after freezing

### EFFECT OF FREEZING ON MIXTURES CONTAINING DIPHTHERIA ANTITOXIN CONCENTRATED WITHOUT THE USE OF HEAT

It occurred to us that perhaps the failure of any of the mixtures tested by us to become toxic, when prepared with highly refined globulin, might be due to the removal from the globulin of some of the proteins that had been precipitated in the process of concentration in which heat was used

We therefore made a concentration of diphtheria antitoxin in which heat was not used, and from this were made mixtures of diphtheria toxin-antitoxin containing both three L + doses and one-tenth L + dose of toxin, 0 3 per cent tricresol being used as a preservative Samples of these mixtures, both frozen and unfrozen, were tested for toxicity on guinea-pigs The mixture containing three L + doses of toxin after freezing developed a heavy precipitate, whereas that containing one-tenth L + dose showed only a slight cloudiness Tests on guinea-pigs showed an increase in toxicity of the three L + lots after freezing, so that while 5 c c before freezing failed to cause acute death, all the animals injected with 5 c c of the frozen material died in less than three days

The mixtures containing one-tenth L + dose of toxin showed a decrease in toxicity after freezing

### EFFECT OF FREEZING ON DIPHTHERIA TOXIN

Samples of diphtheria toxin preserved with 0 5 per cent phenol were frozen for forty-eight hours at minus 5 C, and then thawed at room temperature A slight precipitate, as manifested by a haze or cloudiness, was apparent after freezing and thawing Tests made of the toxicity before and after freezing showed that, whereas before freezing it contained about 400 minimal lethal doses per cubic centimeter, after freezing the toxicity was reduced approximately one half

### AMOUNT OF FREE TOXIN IN FROZEN MIXTURES

After determining that certain specially prepared mixtures of diphtheria toxin-antitoxin become toxic on freezing, it appeared to be desirable to determine the amount of free toxin in such mixtures

A mixture of diphtheria toxin-antitoxin prepared with unconcentrated antitoxin was used It was found that 5 c c of this mixture before freezing did not cause death, but all of the animals subsequently developed paralysis One cubic centimeter of this mixture, after freezing, caused acute death of all the animals injected It was found that after freezing this mixture, which had become toxic, contained free toxin equivalent to about twenty minimal lethal doses per cubic centimeter, while another lot similarly prepared contained approximately ten minimal lethal doses per cubic centimeter

To 1 c c of each of these two lots of frozen toxin-antitoxin were added, respectively, one, two and three units of antitoxin The mixtures were thoroughly shaken and allowed to stand for thirty minutes at room temperature, and then injected into guinea-pigs weighing 250 gm each It was found that the injection of these mixtures failed to cause acute death, but that the majority of the animals subsequently developed paralysis Guinea-pigs were injected with 1 c c of toxin-antitoxin prepared with unconcentrated antitoxin that had become toxic on freezing, and simultaneously on the opposite side of the body were given in some cases five units and in others ten units of antitoxin None of the animals died acutely, but all developed necrosis and sloughing at the site of the toxin-antitoxin mixture and developed paralysis between the thirteenth and the twentieth day, thus indicating partial neutralization of the free toxin by the simultaneous administration of antitoxin, but not sufficient neutralization to prevent the subsequent development of paralysis

Tests made with the toxin used in most of our experiments showed it to have a minimal lethal dose of 0 002 c c and an L + of 0 125 c c Therefore, the mixture containing three L + doses actually had 0 375 c c of toxin, or 187 minimal lethal doses per cubic centimeter of toxin-antitoxin As the most toxic mixtures used by us in our experiments, after freezing, contained only twenty free minimal lethal doses of toxin, it is readily apparent that only a small fraction of the original toxin became disassociated on freezing from the antitoxin, or, to be exact, about one ninth of it became free

The mixtures prepared with one-tenth L + dose of toxin contained 0 0125 c c of toxin per cubic centimeter of mixture, or 6 25 minimal lethal doses It therefore follows that if all the toxin in the mixture prepared with one-tenth L + dose should, after freezing, be freed, there would theoretically be in 1 c c of toxin-antitoxin mixture only 6 25 minimal lethal doses for guinea-pigs weighing 250 gm each, which, weight for weight, theoretically, would be a fatal dose for a child weighing only 1,500 gm, provided guinea-pigs and child were equally susceptible

From this it would appear that in mixtures prepared with one-tenth L + dose of toxin, even when using unconcentrated antitoxin, there could not be theoretically a sufficient amount of free toxin to cause more than a slight local reaction in a child, and that the use of such mixtures is without danger to human beings

### SUMMARY

Fifteen lots of diphtheria toxin-antitoxin mixtures containing three L + doses of toxin, prepared with a highly refined globulin in which 0 3 per cent tricresol was used as a preservative, showed no increase in toxicity after freezing

Eight lots of diphtheria toxin-antitoxin mixture, prepared with a highly refined globulin, containing one-tenth L + dose of toxin, 0 3 per cent tricresol being used as a preservative, developed no increase in toxicity after freezing

Mixtures of diphtheria toxin-antitoxin prepared as stated above became, on the average, less toxic after freezing

Mixtures prepared with three L + doses of toxin, with 0 3 per cent tricresol and made with an antitoxin that had been concentrated without the use of heat, showed an increase in toxicity after freezing

Diphtheria toxin-antitoxin mixtures prepared with unconcentrated antitoxin with three L + doses of toxin, 0 3 per cent tricresol or 0 5 per cent phenol being used, increased in toxicity after freezing

Diphtheria toxin-antitoxin mixtures similarly prepared, one-tenth L + dose of toxin being used, showed no increase in toxicity after freezing

Diphtheria toxin-antitoxin mixtures prepared with unconcentrated antitoxin, with three L + doses of toxin, chlorbutanol or chloroform being used, or without preservative, showed no increase in toxicity after freezing

Diphtheria toxin, after freezing at minus 5 C for forty-eight hours, showed a decrease in toxicity

In the mixtures prepared with unconcentrated antitoxin containing three L + doses of toxin, with tricresol as a preservative, and subsequently frozen, there became disassociated approximately twenty minimal lethal doses of toxin

This free toxin was neutralized by the addition of diphtheria antitoxin or the simultaneous administration of antitoxin, so that acute death was prevented, but paralysis and local reactions sometimse developed

### CONCLUSIONS

In no instance was there found an increase in toxicity after freezing of mixtures of diphtheria toxin-antitoxin

made with a refined antitoxin or globulin, according either to the old or to the new formula

Freezing of a three L + dose mixture of toxin-antitoxin containing 0 3 per cent tricresol, prepared with an antitoxin concentrated without the use of heat, resulted in an increase in toxicity of the mixture

Freezing of mixtures of toxin-antitoxin made with unconcentrated antitoxin and containing three L + doses of toxin, in which tricresol or phenol is used as a preservative, results in an increase in toxicity of the mixture

Freezing of such mixtures in which chlorbutanol or chloroform is used as a preservative, or in which no preservative is used, does not cause an increase in toxicity of the mixture

Only highly refined antitoxin or globulin should be used in the preparation of diphtheria toxin-antitoxin mixtures

Mixtures of diphtheria toxin-antitoxin containing one-tenth L + doses should be the only formula permitted

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# LEAD POISONING IN CHILDREN

## WITH SPECIAL REFERENCE TO PICA

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Pica, or parorexia, is a craving for unnatural articles of food—a depraved appetite It has been observed in hysteria, chlorosis, insanity and pregnancy, but more particularly among children in the latter half of infancy, children from 1 to 2 years of age It sometimes begins in later childhood when from any cause the general health fails, and the child becomes anemic

Still [1] states that he has seen fourteen cases In some of his cases, mud and mortar were especial favorites, in others, coal, cinders and gravel were preferred In nine cases, the habit began in the second year of life, in one, it began at 8 months

Thomson,[2] in a study of pica and its causes, divides this morbid craving in children into two groups

1 Those instances in which the habit begins at any age, often associated with some marked deterioration of the general health (of which anemia is usually a symptom), and lessens or passes off as the general condition improves

2 A larger group in whom the morbid craving develops in early infancy, as opportunity for its indulgence offers, apart from any very noticeable cachexia, and without anemia, passing off gradually in most cases, even if untreated, when the child is about 3 years old

Patients in the former, or cachectic, class may be suffering from a variety of curable and incurable conditions, such as rickets, bronchitis, roundworms, apparently idiopathic anemia, malignant tumor, tuberculosis and other chronic maladies

Koplik [3] believes that this peculiar condition in children is an exaggeration of the normal habit in young infants of invariably placing everything within reach in their mouths In children who suffer from pica, the sense of wholesomeness is lacking, and they crave sand, dirt, gravel, cinders, wall plaster, paper, paint and other substances

Although a child with pica craves many different types of things, it is very fortunate that most of these things are inert, and, although they occasionally lead to minor ailments, such as constipation, fissure-in-ano and other intestinal disorders, they do not cause any serious disturbance of the health of the child

There is, however, one type of poisoning which these pica children acquire, and that is lead poisoning This may easily be overlooked, because the average physician has never had his attention called to the fact, and also because the clinical picture is usually very different from that in similar poisoning in adults There are many ways in which the child may acquire lead poisoning which the average parent could easily prevent

Some children affected with pica have a morbid craving to gnaw painted objects, such as window sills, white furniture, crib railings, porch railings and other articles around the home within their reach A child lives in a lead world

There are many other ways in which lead may be introduced by mouth in paint from toys, in buns and candies colored with lead chromate, in printers' type used as a plaything, in ointment of lead oxid (litharge), and in water and milk that have stood in lead receptacles Or the child may become poisoned by improper medication, i e, by taking lead acetate solution in treatment of poison oak, by sucking paint from the mother's face, by nursing after the use of lead ointment on the mother's breast, or by swallowing leaden objects, such as BB shot

Holt [4] reported one case due to inhalation of dust that contained lead He also stated that the number of authentic cases of lead poisoning in young infants was very small, although much has been written on congenital lead poisoning in extensive studies of the families of workers in lead, in which, in many instances, both parents were suffering from lead poisoning

Before taking up the general discussion and symptomatology of lead poisoning in children, I shall report two cases, which have come under my observation during the last year

### REPORT OF CASES

CASE 1.—A boy, aged 3 years, normal at birth and always well except for nervousness, caused by irregular sleeping hours and careless parents, for six months previous to observation had complained of severe abdominal cramps associated with vomiting, loss of weight and appetite, listlessness, irritability, night cries, bed wetting and progressive anemia The abdominal cramps were usually in the afternoon and evening, and were becoming more frequent

The child had been observed by several physicians in their offices, and in one instance the diagnosis of appendicitis was made The correct diagnosis, however, might have been made by any one who called at the child's home, because every bit of paint on porch railings, window sills, crib, bureau, chairs and even white enameled door casings, as high as the child could reach, had been gnawed off

The child was fairly well nourished, and was pale and pot bellied, but of normal height There was a distinct lead line on the gums The abdomen was relaxed, and no tenderness was elicited The spleen was just felt There was no paralysis

The laboratory data were white blood corpuscles, 15,400, red blood corpuscles, 4,000,000, hemoglobin, 50 per cent A differential count was normal There was no stippling, and the red cells showed only the usual evidence of a secondary anemia

Lead was recovered from both the urine and the feces

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1 Still, G F Common Disorders and Diseases of Childhood, London, Henry Frowde, 1915, pp 779 782

2 Thomson, John On Pica, or Dirt Eating, in Children, Edinburgh Hosp Rep 3 81 94, 1895

3 Koplik, Henry The Diseases of Infancy and Childhood, Philadelphia, Lea & Febiger, 1918, p 793

4 Holt L E, Jr Lead Poisoning in Infancy, Am J Dis Child 25 229 (March) 1923

As this child would not gnaw varnished objects, it was easy to remove the source of lead by refinishing the entire house; within two weeks, except for some anemia, the child was normal

CASE 2.—A girl, aged 2 years, normally developed, who had always been well, during the last month had had three series of convulsions The mother stated that the child gnawed the paint from the crib and the window sills, and had an uncontrollable desire to chew any painted object

Examination was negative, except for a slight degree of internal strabismus of the left eye, which the mother had not noted before

The red blood corpuscles numbered 4,520,000 per cubic millimeter, the hemoglobin was 60 per cent No stippling was seen No lead was found in the urine, but there were traces of lead in the feces on two examinations

Since the source of lead has been removed, this child has made an uneventful recovery and is now normal

### SYMPTOMATOLOGY [5]

The history of the case is very important and may lead to an easy diagnosis after all other methods have proved failures The appearance of the child is usually striking in the chronic cases of lead poisoning, on account of the degree of secondary anemia concomitant with it

In the early cases, a change of disposition is often the first symptom noticed The child becomes fretful, peevish and restless at night, the appetite becomes poor, the breath is foul, and frequently hemorrhages occur from the gums The child may complain of pains in the epigastrium and the legs

In chronic cases, the pains in the abdomen become continuous and more severe Constipation is present Vomiting is rare There is usually a degree of anemia present, but occasionally the parents overlook all manifestations until the development of cerebral disturbances Very few cases reported show the characteristic wrist-drop so common in adults, but paralysis of the cranial nerves, particularly the facial and motor oculi nerves, is common Gibson [6] reported a group of eye symptoms, which he referred to as "plumbic ocular neuritis"

The temperature, as a rule, is normal except in the fatal cases and in those with cerebral disturbances, in which it may reach 105 or 106 F before the death of the patient

Of the various forms of cerebral disorders produced by lead, convulsive seizure is by far the most common There is no way, however, to distinguish the convulsions due to lead poisoning from those due to other causes All types of convulsions are seen They may be local or general, they may be mild or severe The convulsions do, however, have one characteristic, and that is that they are very persistent and are attended by a high mortality

Colic has been more frequently observed than paralysis, but more common than either are irritability, restlessness and a blue line on the gums It should be remembered, however, that a continuous lead line is seldom found. The characteristic appearance is the presence of minute black dots in the margin of the mucous membrane around the teeth, which are covered with tartar It is difficult to see, and a hand lens should be used

The blood picture, except for a secondary anemia, usually tells us nothing, although this is determined by the duration of the poisoning If the disease has been present for some time, stippling of the red blood corpuscles may occur

Direct evidence of lead poisoning is obtained by the demonstration of [7] lead in the urine and feces There is, however, always a larger amount in the feces than in the urine, and it is often present in the feces when it cannot be demonstrated in the urine

### CLASSIFICATION INTO GROUPS

Because of the variability of the sensitiveness of children to lead, a classification into definite groups is difficult, and when made must be based largely on the severity of the predominating system

Turner divides lead poisoning in children into four groups

1 Paralytic cases showing symmetrical wrist-drop, foot-drop, spasm of the calf muscles and, as a secondary lesion, a persistent talipes equinus

2 Cases characterized by pains in the abdomen and limbs, concomitant with habitual constipation, and occasionally a blue line on the gums These children are usually irritable and neurotic

3 Children suffering from ocular neuritis, viz, a neuritis involving the optic, oculomotor, abducens and trochlear nerves

4 Eclamptic cases with severe and persistent convulsions, which often end fatally

We are indebted to Australian observers for most of the literature regarding lead poisoning in children, and for an historical account of lead poisoning in the children of Queensland, from the first recorded cases in 1892 to 1917 A recent article [8] records the probable success of efforts to have an act passed prohibiting the use of white lead paint on veranda railings and outside surfaces within the reach of children's fingers

### TREATMENT

The treatment of this condition may be considered from three points of view

1 Prophylactic Careful supervision of children during the age (from 1 to 3 years) in which pica is most prevalent Wide publicity and education through periodicals and home journals, in order to educate the parents

2 Symptomatic For the spasms, chloroform inhalation is the only agent that is efficacious, for the anemia, the various forms of iron and arsenic, for the local palsies, massage and electricity, and for the permanent palsies, surgery should be resorted to, if possible

3 Medicinal For the removal of lead from the system, potassium iodid, from 3 to 5 grains (0.2 to 0.3 gm.) three times daily with a morning purge of magnesium sulphate may be tried This is the usual method, although in severe cases it is not well to give the iodids, since, according to some writers, the liberation of the lead that has been deposited in the tissues may increase the severity of the symptoms

Gibson,[6] in 1919, reported successful treatment by the two-bath ionization system The patient places both hands on an aluminum plate immersed in a salt solution, which is connected with the negative pole, and both feet likewise in a similar bath, which is connected with the positive pole From 7½ to 8½ volts and 25

5 A complete description of the symptomatology of lead poisoning in children is given by Blackfan K. D Lead Poisoning in Children, Am J M Sc. 153 877 (June) 1917

6 Gibson J L The Diagnosis Prophylaxis and Treatment of Plumbic Ocular Neuritis Amongst Queensland Children M J Australia 2 201 (Sept. 8) 1917 On the Importance of De-Ionization in the Treatment of Plumbism in Queensland Children ibid 1 272 (April 5) 1919

7 Considerable urine is evaporated to dryness and 20 c.c of fuming nitric acid is added after the reaction has subsided it is allowed to simmer over the free flame for one half hour and then 25 c.c more acid is added three times each fifteen minutes The fluid is then evaporated to a small volume neutralized with sodium hydroxid filtered and the lead tested with hydrogen sulphid which will give a brown precipitate

8 An Historical Account of the Occurrence and Causation of Lead Poisoning Among Queensland Children, M J Australia 1 148 (Feb 11) 1922

milliamperes of current given for one-half hour, daily The lead is deposited on the aluminum plate in the negative bath

CONCLUSIONS

1 Pica is one of the most important etiologic factors in lead poisoning in children

2 There are many mild cases of lead poisoning in children, manifested by spasms or colic, the true nature of which are never suspected

3 Energetic prophylactic measures should be employed with children who habitually eat painted articles

4 The feces and the urine should be examined for lead in all children with convulsions in which the etiologic factor is not clear

1002 Pacific Mutual Building

# TRAUMATIC INJURY OF THE RECTUM

## REPORT OF CASE *

W B MARBURY, M D
WASHINGTON, D C

In looking over the literature, including that at the Surgeon General's Library, on injuries to the rectum, I have been unable to find a case similar to the one reported here Gant epitomizes sixty-four cases that fell under his personal observation These may be classified as

1 Those due to injury from foreign bodies, either during instrumentation or as result of accident Among these, fish-hooks, gunshot wounds, falling on palings or stabs, and use of the speculum and dilators play a conspicuous part

2 Rupture of the sphincter due to pederasty, or of the perineum during parturition Rupture of the recto-vaginal septum during copulation

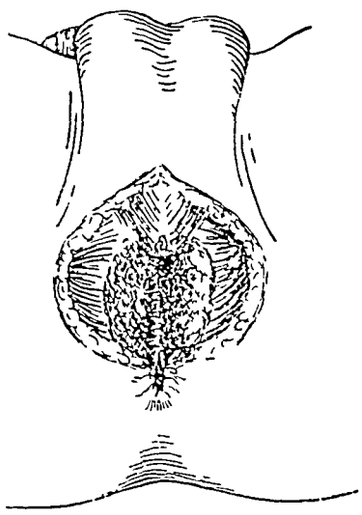

Fig 1 —Muscles in front of the rectum torn and retracted, with the latter practically intact

3 Rectovaginal rent induced by rectal distention with an air-filled rubber bag

4 Perforation of the rectum by foreign bodies left in the abdomen

5 Ulceration due to phenol (carbolic acid) or turpentine

The anatomic structures most usually affected are the rectum or sigmoid, urethra, one or both sphincters, the levator ani muscle, and the rectovaginal septum Only in one case was there mention of any injury to the bony structure, and that was when the coccyx was fractured as the result of a kick during a fight

The unique features about the case reported here are that all the muscles about the rectum were torn and retracted, leaving the intestine intact, rupture of the urethra, and fracture of the descending ramus of the pubes

### REPORT OF CASE

L S, a colored boy, aged 4 years, while riding on the running board of a truck, Aug 11, 1923, was thrown as the truck entered an alley, and crushed between it and the side of a brick wall He was brought soon afterward to the emergency hospital The pupils were equal and reacted to light and in accommodation The tongue was coated The teeth and gums were in good condition The tonsils were slightly enlarged, but the pharynx was otherwise normal There were several palpable cervical glands The chest was firm, and expansion was good and equal on the two sides The percussion note was resonant throughout The breath sounds were clear The heart was not enlarged, but there was a soft systolic murmur at the apex not transmitted to the axilla The abdomen was slightly distended and tender in the region of the bladder About the rectum, running anteriorly, there was a laceration, which seemed to go through the sphincter There was much bleeding, some of which appeared to come from high up in the rectum An attempt was made to pass a catheter, but this was unsuccessful and only a little blood was obtained On further examination it was found that the laceration at the rectum included both sphincters and part of the perineal raphe The finger could be passed upward anterior to the mucous membrane of the bowel, and the sharp edges of the broken ramus on the right side could be felt Also the urethra was torn in this region, and urine was passed through the opening Whenever the patient's legs were moved in any way, he experienced great pain in the region of the symphysis Once when we were moving the patient, the whole pelvis was seen to rock irregularly, and definite crepitus was obtained There was no evidence of injury to the extremities

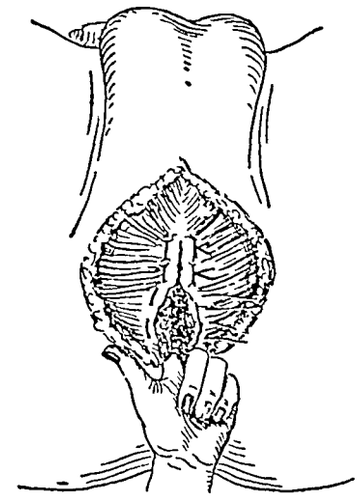

Fig 2 —Muscles being sutured over the rectum en masse, area between sutured muscle and skin packed lightly with gauze (not shown)

The patient was sent to the operation room Under general anesthesia, and with the patient in the lithotomy position, a more thorough examination was made The rectal tube was found practically intact, but the muscles anterior to it were torn and retracted on both sides so as to appear only laterally, and retracted far back toward the posterior surface The rough edges of the fractured descending ramus of the pubes could be felt The opening in the urethra was not made out The torn sphincter muscles and the levator ani were brought together over the midline anteriorly and sutured with chromic catgut This procedure was facilitated by keeping one finger in the rectal tube The area above this was left open, and a small amount of packing was placed in the space for drainage and to control oozing A cast was applied from the knees to the costal margin

Dr Groover reported that examination of the lumbar spine, pelvis and hips showed the presence of a dislocation of the right innominate bone, with a fracture of the descending ramus of the pubes on the right side, the pubic symphysis was separated approximately 1 inch and there was, of course, necessarily some compensatory damage in the sacro-iliac joints

The following day the patient seemed a little better, though very restless There was some abdominal distention, and he complained of the cast being too tight This was loosened There was copious drainage of pus from the peroneal wound, and the temperature rose to 102 2 F He voided involuntarily and through the urethral rent Two hundred cubic centimeters of physiologic sodium chlorid solution was given by hypodermoclysis August 14, he had an involuntary defecation He had a frequent desire to urinate by the normal route, but without success August 28, or seventeen days after admission, there were some signs of the patient's regaining control of the bowels, but the urethral fistula persisted

* Read before the Virginia, Maryland and District of Columbia Medical Society, Dec 5, 1923

September 10, Dr Fowler, who was looking after the urethral fistula, found an opening just in front of the rectum, about 1 5 cm in diameter The skin was beginning to grow into the opening Pressure on the perineum forced a creamy, purulent material into the opening A probe could be introduced for 8 or 10 cm, passing anteriorly upward until its tip could be felt under the skin of the scrotum at the root of the penis The patient stated that he had the same feeling before urinating as before the accident, but on attempting this, the urine passed by way of the peroneal route

The patient left the hospital, October 15, sixty-five days after admission The cast was removed after being on about one month In spite of the involuntary passage of urine and feces, no sore developed under the cast, owing to the good care taken by the nurses At the time of discharge he had good control of both sphincters, but walked with a limp as a result of the fractured pelvis

COMMENT

In spite of the fact that considerable damage was done to the bony pelvis in this case, there was little or no disability Recently I saw the boy running and playing with his friends as if nothing had happened This emphasizes the point that Dr Foley brought out last year before the District of Columbia Surgical Society Those suffering from what we frequently speak of as sacro-iliac synchondrosis or dislocation often show no deformity on roentgenographic examination, though they may complain severely of pain referable to the joint or sciatic nerve, while others, whose pictures show a marked deviation from the normal, have no symptoms It is difficult to see how so much damage was done to the peroneal muscles since they are so well protected by the pelvic arch It is likely that the force was applied in an anterior-posterior direction and the

Fig 3—Dislocation of the right innominate bone with fracture of descending ramus of pubis on right side separation of symphysis approximately 1 inch and compensatory damage to sacro-iliac joints

symphysis made to approach the coccyx This would put the transverse perinei and the levator ani on the stretch and, as the transverse diameter widened, cause this rupture

1015 Sixteenth Street NW

**The Carrion Monument**—Each of the American republics is to present a stone to be used in a monument to Daniel A. Carrion the medical student at Lima who gave his life to settle the question of the identity of Oroya fever and Peruvian verruca Cuba has already dispatched a large, nearly square marble appropriately inscribed as its contribution

# THERAPEUTIC PNEUMOPERICARDIUM IN PERICARDITIS WITH EFFUSION *

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ATLANTA, GA

The institution of therapeutic artificial pneumopericardium in the treatment of pericarditis with effusion has received scant attention Emile-Weil and Loiseleur,[1] in 1916, reported a case of tuberculous peri-

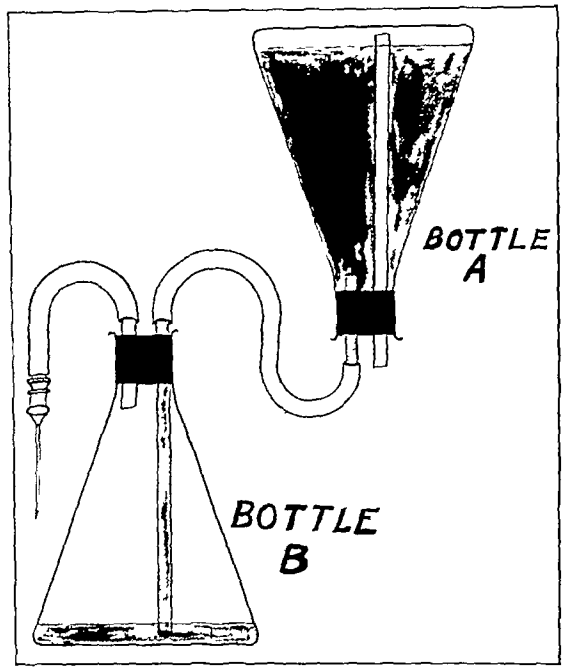



Fig 1—Apparatus used to inject the air into the pericardial sac Inverting Bottle *A* causes the water to run over into Bottle *B* thus forcing the air out through the connecting tube into the pericardial sac

carditis with effusion which they treated by aspiration of the fluid and the injection of air In all, six aspirations were made, the last five of which were followed by air injections They noted a marked strengthening of the general condition of the patient—a child of 14—and what they thought were improvements in the pericardial condition, namely, a reduction in the amount and rapidity of exudate formation and a change in its character from a serosanguineous liquid to one of clear straw colored appearance They were able, also, by the use of air injections, together with the fluoroscope, to find pocketed or encysted fluid within the pericardial sac which had not emptied on aspiration, and to drain these In 1917, Meyer [2] reported a case of pericarditis with effusion, which he treated with aspiration followed by the injection of nitrogen gas Marked clinical improvement was observed The greatest benefit came about when the volume of gas injected approached the volume of exudate removed Castex [3] reported a case of pleural and pericardial tuberculosis Three injections of oxygen were made in the pericardial sac, each giving increased relief to the patient The formation of adhesions prevented continuation of treatment

* From the Department of Medicine Emory University School of Medicine

1 Emile Weil, P and Loiseleur Contribution a l'etude de la pericardite tuberculeuse insufflation d air dans le pericarde pneumopericarde et hydropneumopericarde artificiels, Bull et mem Soc. med d hop de Paris **40** 1715 1730 1916

2 Meyer A A Case of Artificial Pneumocardium M R c **93** 38 1918

3 Castex M R Le pneumopericarde therapeutique Bull et mem Soc med de hop de Paris **47** 545 547 (April 13) 1923

Of all the serous cavities, the pericardial sac is unquestionably the one in which the mechanical disturbance of an exudation will be most distressing and most dangerous, for it offers an embarrassment to the most vital of all organs, the heart. Owing to the physical

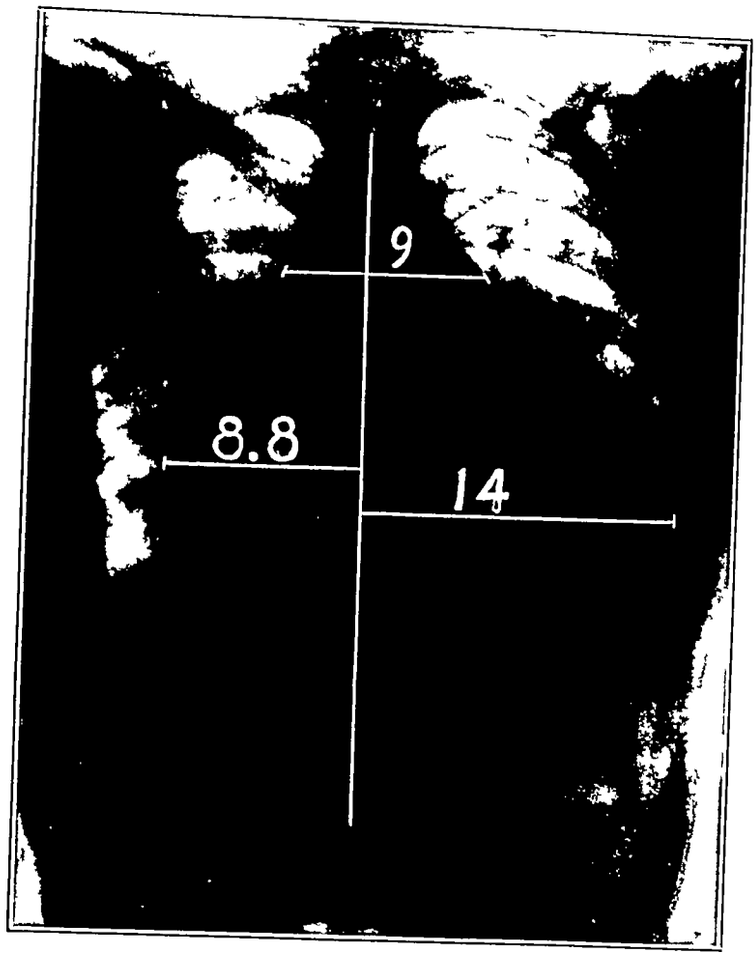



Fig. 2.—Condition of patient on entrance; shadow of extreme width at level of great vessels (second intercostal space), pericardial sac in contact with thoracic wall on left, extending beyond midclavicular line on right, no heart sounds or pericardial rub.

properties of a liquid, an exudate within this sac is incompatible with either an easy or an efficient cardiac action, for it is heavy and incompressible, and it does not lend itself to the rapid change in the size, shape and position of the heart that occurs with systole. When present in large amount over an extended period, it must therefore result in a gradual failure of the myocardium. Air or any gas, on the other hand, is light and compressible and offers little, if any, resistance to the movement of the heart. Thus, from a mechanical standpoint alone, the replacement of a pericardial effusion with air should result in a most profound relief of the cardiac embarrassment.

It is probably true that an inflammatory exudate thrown out between two serous surfaces serves to prevent the irritation that would arise when these surfaces move against each other. Often, however, the quantity of the effusion is such that its value is overshadowed by the mechanical burden that it imposes.

The ultimate hope in any type of pericarditis with effusion is in securing resolution of the inflammatory process and absorption or withdrawal of the exudate. Our efforts are to accomplish this in the shortest time and with the least danger or discomfort to the patient.

In the case reported here the injection of air, following the drainage of the pericardial sac, was used with the thought that (1) the air would serve to keep apart the inflamed surfaces, thus preventing the formation of adhesions, (2) relief would be obtained from the embarrassment of a voluminous exudate, while the air would temporarily maintain the pericardial distention and allow it gradually to contract as the air was absorbed, (3) there would be delay in the reformation of the exudate, this being brought about by the tendency of the air to maintain the pressure that has been exerted by the fluid, (4) in this instance, the process being tuberculous, the air might have some effect in hastening the termination of the inflammation, a fact that has been observed at times in tuberculous peritonitis.

## REPORT OF CASE

*History.*—A male negro, aged 23, was seen in the emergency clinic, to which he came for the relief of abdominal pain and shortness of breath. The onset of the trouble could not be well elicited. As is often true with the negro, his remembrance of the symptom development extended back only to the time when he first noticed decided interference with his habits of life. In this instance, the man, being a truck driver, noticed two weeks previously that he became a little short of breath when loading or unloading his truck. This grew rapidly and steadily worse. At first he attributed his trouble to his smoking a large number of cigarets. He discontinued their use, however, without relief. Within a period of seven days he was forced to give up his occupation and to remain at home. By the tenth day he had become unable to move about without great discomfort, and he noticed a heavy, dull, aching sensation in the right upper abdomen. When he finally came to the clinic,

Fig. 3.—Condition immediately after first paracentesis, at which 690 c.c. of fluid was removed. The decrease in the cardiac shadow is easily seen, especially at the level of the great vessels; there is much less upward bulge to the pericardium, intense pericardial friction rub over entire precordium, heart sounds audible, but masked by the friction.

approximately two weeks after the onset of the trouble, he stated that he had had practically no sleep for three days; that he was unable to lie flat in bed, and that he was suffering great abdominal distress.

This brief sketch contains practically all the information that could be obtained Up to the present, he had always enjoyed good health and had worked hard The past history presented nothing that might bear any relation to the patient's present condition

*Physical Examination*—The patient was well developed and well nourished, his weight was 135 pounds (61 kg) He was orthopneic, the respirations being rapid, short and gasping The mucous membranes were cyanotic The left chest seemed fuller than the right, and had the smooth, rounded appearance commonly seen in hydrothorax There was decided limitation of motion of the left chest on respiration No cardiac impulse could be seen at any place, nor could an impulse be felt On percussion, the cardiac dulness extended to the inner nipple line on the right and to the posterior axillary line on the left, the outline having the usual triangular shape of a pericardial effusion Auscultation revealed only a faint, distant rumble over the sternum, at the level of the second intercostal space No heart sounds could be heard elsewhere The lung examination showed a general harshness of the breath sound, while over the hila and apexes posteriorly were found crepitant rales and breath sound changes suggesting a moderate pulmonary infiltration

Fig 4—After second treatment drainage of 800 c c of fluid and injection of 50 c c of air the air that occupies a small portion of the pericardial sac at the extreme base should be noted where it has risen from the point of injection at the fifth intercostal space friction rub intense heart sounds strong

The abdomen was smooth and tense There was marked tenderness over the right upper quadrant The liver was palpable at the level of the umbilicus There was no edema The systolic blood pressure was 105, diastolic, 60, temperature, 100 4, pulse, 90, respirations, 26

The working diagnosis was of pericardial effusion, and cardiac decompensation, with passive congestion of the lungs and liver

Owing to the weakened condition and the three days' loss of sleep, it was thought advisable to postpone paracentesis until some rest had been secured For this purpose morphin sulphate one-fourth grain (0 016 gm), with atropin sulphate one one-hundredth grain (0 00065 gm) were given by hypodermic injections, which resulted in several hours of sleep The patient awakened feeling much better and much strengthened

Fig 5—Third treatment 800 c c of fluid removed and 420 c c of air injected there is a horizontal fluid level, the air being above the parietal pericardium is well separated from the visceral pericardium, no friction rub, heart sounds clear, but somewhat distant

Fig 6—Five days after third treatment there has been some absorption of air and reformation of fluid

For comparative purposes, a teleroentgenogram at a distance of 7 feet was taken All subsequent pictures were made at the same distance Paracentesis of the pericardial sac was then performed, a lumbar puncture needle being inserted through the fifth intercostal space 1 inch from the left sternal border When the pericardial sac was reached, the fluid was allowed to siphon off into a sterile flask through a soft rubber tube equipped with an adapter fitted to the puncture needle In this way, 690 c c of dark red, bloody fluid was removed, taking altogether about forty-five minutes The same technic was followed in all subsequent paracenteses In all, the pericardium was tapped five times The last four were followed immediately by the injection of air The air was introduced by means of two flasks fitted with two-holed rubber stoppers One of these bottles was filled with water, the other contained only air These were so arranged that on inverting the first bottle the water ran into the second bottle, thus forcing the air out and through a connecting rubber tube into the pericardial sac

Tubercle bacilli were found in the fluid aspirated from the pericardium Following the relief of the passive congestion of the lungs, signs of pulmonary infiltration remained and tubercle bacilli were demonstrated in the sputum The diagnosis was then changed to a moderately advanced pulmonary tuberculosis with a tuberculous pericarditis with effusion

The first paracentesis of the pericardial sac was done, Dec 31, 1923 At this time 690 c c of fluid was withdrawn This was attended by the appearance of a harsh to-and-fro friction rub coincident with the heart beat It could be heard over the entire precordium The improvement in comfort and lessening of dyspnea were pronounced, the friction rub apparently not causing the patient any distress Another teleroentgenogram was then taken and, by comparing this with the one taken

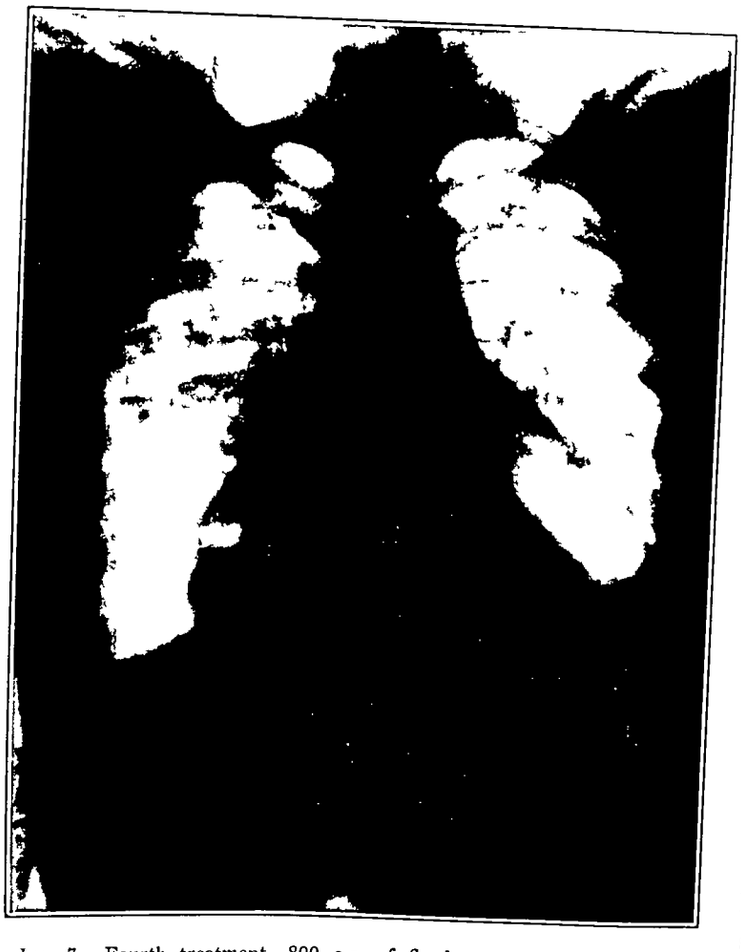


Fig 7.—Fourth treatment 800 c c of fluid removed and 500 c c of air injected, the air occupies a much greater portion of the pericardial sac (fluid level lower), there is no pocketing of fluid, no friction rub, heart sounds similar to those after third treatment

previously, we could see the reduction in the cardiac shadow This was best noticed by measurements of the median right and the mediant left diameters, and the width at the level of the great vessels

By the fourth day, Jan 4, 1924, the friction rub had completely disappeared and the dyspnea again became distressing Paracentesis was therefore repeated, 800 c c of fluid being removed Without withdrawing the needle, we injected 50 c c of air A roentgenogram was then made which showed

Fig 8.—Immediately after fifth treatment The air occupies almost the entire pericardial sac, little fluid can be made out, no pericardial friction rub, heart sounds clear, of good quality but distant

this air held in the upper portion of the sac As before a coarse friction rub appeared, the heart sounds became more audible, being of fair volume (though somewhat masked by the friction rub) and without demonstrable murmur Relief from this puncture again lasted only four days, and on January 8 the third paracentesis was performed At this time, 800 c c of exudate was withdrawn and 420 c c of air injected The friction rub that recurred on drainage of the fluid was found to disappear entirely on the injection of the air, and the heart sounds became distant and indistinct Where there had been pronounced improvement following the first two drainages, the improvement following the injection of this larger volume of air was striking

The patient remarked that he "felt a great deal better," and he asked to be allowed to get out of bed It was found, in addition, that the improved condition was sustained for a much longer time, an interval of ten days (to January 18) passing before the fourth drainage and air injection were done Dyspnea had by then returned During the fourth treatment, 800 c c of exudate was removed and 500 c c of air injected The resulting improvement was even more marked and more lasting, the fifth treatment being given fourteen days later February 1 This was not, in fact, necessitated by the condition of the patient, but was done as a therapeutic measure solely because of the benefit derived from those preceding it Only 500 c c of fluid could be withdrawn at this tapping, and this was replaced by 500 c c of air The teleroentgenogram taken afterward shows that the air occupied a much larger portion of the pericardial sac This indicated a reduction in the rate of exudate formation

By January 29, that is, before the last treatment, it was impossible longer to keep the patient in bed, and he was permitted to walk about the ward Shortly after this, he began

ıssıtıng that he go home, which he was allowed to do, ebruary 2 At that time he felt well and strong, and was ot suffering from any discomfort or dyspnea on ordinary xertion

It has been impossible to locate the patient since he left the ospital

One complication developed during the course of his stay n the hospital, which was a friction rub, first noticed, January 8 One hypodermic injection of morphin sulphate was given for the pain A small effusion followed this pleurisy, which was still present on the dismissal of the patient

The accompanying teleroentgenograms serve to show the enormous size of the pericardial sac and the reduction of size secured by drainage Naturally, the greatest difference is to be noted at the level of the great vessels, because of the tendency of the remaining fluid to gravitate to the apical region This factor also influences the lessening of the shadow to the right of the sternum Where the air is present, the size of the heart in comparison with the entire mass can be made out, as can also the magnitude of pericardial distention produced by the exudate There seems to have been some increase in the size of the heart, indicating a cardiac hypertrophy

CONCLUSIONS

Though it may not be justifiable to draw conclusions from a single case, the following observations seem worthy of consideration

1 The production of an artificial pneumopericardium following drainage is without danger or discomfort

Fig 9—Five days after fifth treatment The reformation of exudate is proceeding slowly

2 The injection of air gives even greater relief than aspiration of the exudate alone

3 The presence of air delays the reformation of exudate, and postpones the necessity for repetition of drainage

4 By holding apart the two layers of the pericardium, we tend to prevent both friction and the formation of adhesions

5 The pneumopericardium permits us by roentgen-ray examination to see how completely the exudate has been evacuated When guided by the fluoroscope, the exudate can be entirely removed, and pocketed collections of exudate emptied

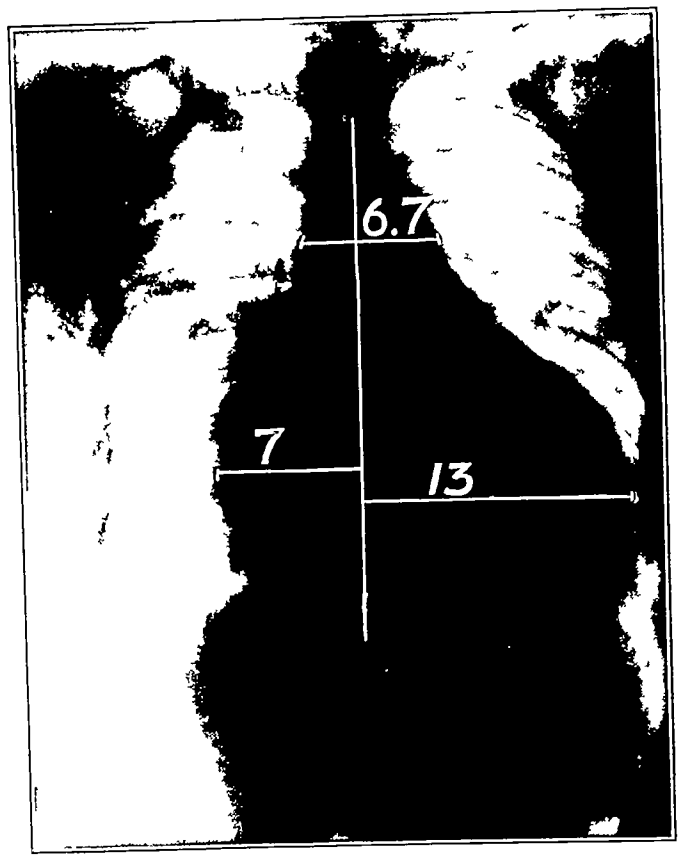



Fig 10—Appearance on day of departure from hospital All air has been absorbed diminution of cardiac shadow can be made out by comparison with Figure 2 no pericardial friction rub, heart sounds audible at all the usual points

94 North Butler Street

## *Clinical Notes, Suggestions, and New Instruments*

### APPENDICAL CONCRETIONS SIMULATING URETERAL CALCULI

ERNEST G MARK M D KANSAS CITY, MO

It is not unusual for the urologist to call the attention of the general surgeon to the numerous cases of ureteritis or ureteral stone in which operations are performed under the diagnosis of appendicitis The opposite is, I believe, quite uncommon It is for this reason that I report a case in detail

H H M, a man, aged 44, married, an extracting dentist, who came under my observation, Oct 6, 1923, had been operated on for a right inguinal hernia under local anesthesia, about the middle of the preceding August. Following this operation he developed a retention which required catheterization On the seventh day after his first catheterization he developed a sudden rise in temperature unaccompanied by chill There was no infection of the herniotomy wound This rise in temperature was accompanied by a severe burning sensation in the urethra The pain continued to become

more severe, being referred entirely to the urethra, and was relieved only by applying hot, moist applications to the penis and perineum September 11, dysuria became so pronounced as to require opiates for a week There was at this time a fair amount of pus and blood in the urine

Fig 1 —Two stones apparently in the course of the right lower ureter

Following this dysuria, which became intermittent, the patient developed hemorrhoids, for which he was operated on, October 2 Following this operation, the dysuria became much more pronounced, and the bladder was lavaged by catheter several times The urinary disturbance became much worse, and he was entered in Research Hospital, October 6, for observation

Fig 2 —Change of position of the two stones following manipulation with the ureteral catheter They are apparently outside the ureter

At the time of my seeing him, he presented the symptoms of dysuria spoken of heretofore, spasmodic in character and extremely severe No attempt was made to apply local treatment He was placed on alkalis, bromids and some codein, with the result that within the next few days he was so greatly relieved that he was able to be out of bed and around

The physical examination was entirely negative except for the scar of the recent herniotomy There was a slight exaggeration of reflexes, but no more than was to be expected in the patient's highly nervous state He was well nourished and well developed, and appeared to be in the best of health There was no pain or tenderness in either renal region or along the course of the ureters There was no tenderness over McBurney's point In fact, the entire abdomen was negative to examination The deep ganglions were not tender

The history revealed no disturbance of a gastro-intestinal nature, no pain at any time in the appendical region, and no renal colic The patient had had the ordinary diseases of childhood, but even the most careful questioning failed to elicit either from him or from his family anything that might point to the gastro-intestinal tract

The urine still showed some pus and some blood cells October 10, he was referred to the roentgen-ray department for pictures of the urinary tract, which showed apparently two stones in line with the right lower ureter October 13, cystoscopy was performed with a roentgen-ray ureteral cathe-

Fig 3 —Change again in the position of the stones with sodium bromid solution filling a dilated lower ureter and stones apparently in this dilated portion, arrow points to bromid in dilated ureter

ter, and these concretions appeared to be outside the ureter However, the right ureteral orifice was quite edematous, and the ureteral catheter met definite obstruction just within the orifice The catheter "jumped" by the first obstruction, met a second obstruction just above, and "jumped" by this in the same manner In spite of our roentgen-ray findings, we were inclined to believe that these stones were in the ureter on account of the obstruction met by the catheter and on account of the appearance of the ureteral orifice and the findings with the ureteral catheter, the urine showing a few pus and blood cells While hard to conceive, it was nevertheless determined that these stones lay in a diverticulum of the lower third of the ureter As apparent further proof that these concretions were in the ureter, repeated cystoscopies caused these stones to change position Stereoscopic plates with the ureteral catheter in place showed them to be apparently on the same plane in the pelvis as the catheter Injections of sodium bromid into the lower ureter apparently confirmed our diagnosis of stones in the lower third of the ureter While cystoscopy revealed no diverticulum of the bladder, and the position of the stones, as shown in the roentgenograms, was practically sufficient to exclude their presence in

a diverticulum, a cystogram also was made to rule out such a possibility

In view of our findings, it was determined to do a transperitoneal exposure of the ureter after the method of Farr, modifying this operation to a slight extent This was done, October 18 Before the patient was taken to the operating room, a ureteral catheter was placed in the right ureter to identify this structure readily rather than to watch for the peristaltic wave of the ureter An incision was made from above the umbilicus slightly to the right and almost to the pubis, the patient being in marked Trendelenburg position The viscera fell away into the upper abdomen, and the ureteral catheter could be readily felt against the posterior peritoneal surface with two stones apparently in the ureter Some difficulty was encountered in freeing the cecum, and, much to our surprise, a long, thin appendix came away, having in its tip two large concretions The tip of the appendix was adherent to the posterior peritoneum immediately over the ureter Simple appendectomy was done The patient made an uneventful recovery, leaving the hospital on the ninth day without recurrence of symptoms

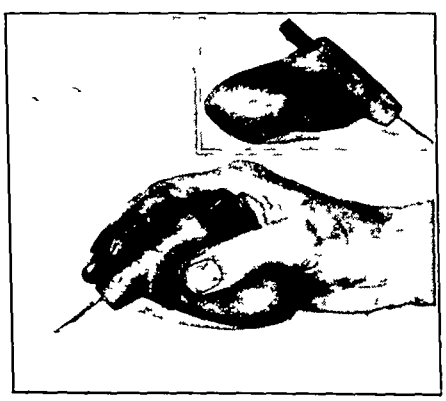
1010 Rialto Building

## A DEVICE FOR THE RELIEF OF WRITERS CRAMP

REGINALD H SAYRE, M D NEW YORK

For years, various mechanical devices have been tried for the prevention of writers' cramp in those who have to write constantly In one of the New York Sunday papers there recently appeared a picture of Paul Vosburg, a German inventor, using what was described as "blocks of wood" for this purpose I have seen molds of dental wax used, but their weight is a serious objection Miss Keenly, the clerk in my clinic at the University and Bellevue Hospital Medical College, was very much troubled with pain in her right arm and hand whenever she had much writing to do, and after experimenting with various methods to relieve her hand from cramp, had the apparatus made that is shown herewith It has afforded relief to her

Miss Keenly made the original model by holding a wet plaster-of-Paris bandage in her hand, thus getting an accurate mold of her palm and fingers in the writing position that was most comfortable Through this plaster-of-Paris model she



Device for relief of writers' cramp

thrust a lead pencil With this as a guide, a mold of willow wood of similar contour was made in the artificial limb department of the Institute for Crippled and Disabled Men The mold was hollowed out in the center, for lightness The pen or pencil, which passes through the body of the block, is retained in position by wrapping a few turns of rubber band around the pen or pencil where it projects at the top and at the bottom The entire apparatus, pencil and all, weighs slightly more than 1 ounce, although it is large enough to fill the hand with the fingers only slightly flexed

In the use of this apparatus, hand and finger motion is eliminated the patient's hand or the lower end of the wooden mold sliding along the paper while elbow and shoulder motion are employed in writing

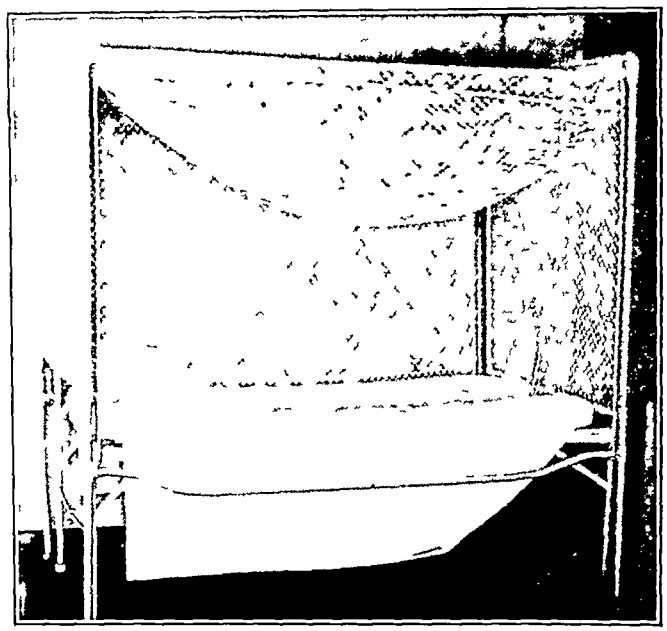
The device could probably be made by any competent woodworker or a maker of artificial limbs, following a plaster-of-Paris model from a patient's hand

14 West Forty-Eighth Street

## MOVABLE FRAME FOR PROTECTING DELIRIOUS PATIENTS

M A REASONER M D NEW YORK
Major Medical Corps U S Army

In the spring of 1922, there was constructed at the medical supply depot, Coblenz, Germany, a movable frame with netting for the purpose of enclosing a bed It was based on a description



Movable frame for protecting delirious patients

given by Dr H C Michie of a similar device he had seen in a hospital in Vienna It was in use at the Station Hospital in Coblenz until this place was given up, and then forwarded to the Walter Reed General Hospital

As will be seen from the illustration, it consisted of an iron frame large enough to fit around and over a hospital bed It had plenty of head room, and was covered with a heavy netting This device serves effectually to restrain a patient with purposeless delirium without the constant services of an attendant With the closed frame in place, it is impossible for such a patient either to get out or to fall out of bed or to injure himself seriously

The services of a netmaker were secured to construct the netting, since it must be heavier and stronger than the netting ordinarily available A cord similar to window cord but only from ⅛ to 5/32 inch in diameter was secured for the purpose It was found best to make the frame first and allow the netmaker to build the net to the frame

This particular frame was constructed of 1 inch galvanized iron pipe and no difficulty was found in the construction It was mounted on castors so that it could be readily moved from place to place The lower crossbar at the head was so arranged that it could be elevated sufficiently to permit the headpiece of the bed to pass under It would perhaps be simpler to have this portion of the frame rigid and lift the frame the 6 or 8 inches necessary to pass over the headpiece

At least one side must be made to allow easy and full access to the patient For this purpose, two solid rods were run parallel and close to the corner posts of the frame and attached at the top and bottom On these two vertical rods slipped up and down the horizontal rod, to which, was attached the lower edge of this side wall of the netting Many ways

might be devised to hold this horizontal rod in position either when raised or when lowered, but it is believed that a central movable hook is about as simple and satisfactory as any

39 Whitehall Street

## IMPROVED HODGEN'S WIRE SUSPENSION SPLINT

W W NAUTH, M D, WINONA, MINN

This splint was devised to facilitate the more or less daily adjustments necessary in this kind of apparatus

In the regular Hodgen's splint, the adjustments of the swathes on which the leg is suspended is accomplished with safety pins

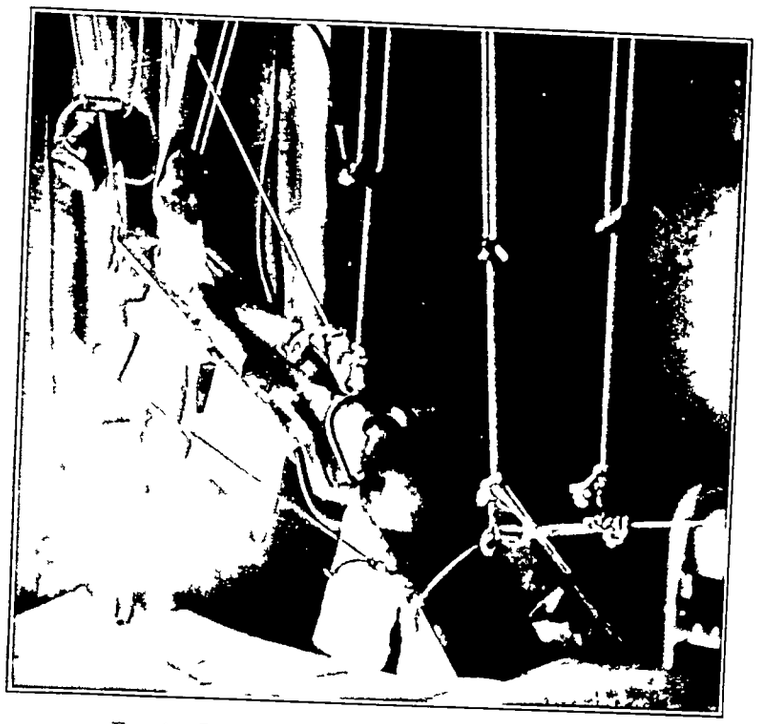


Fig 1—Improved Hodgen's wire suspension splint

The improvement consists of a row of pins, placed about three-fourths inch apart, along the edge of and on each side of the entire splint, set at an angle to insure holding the swathes under tension

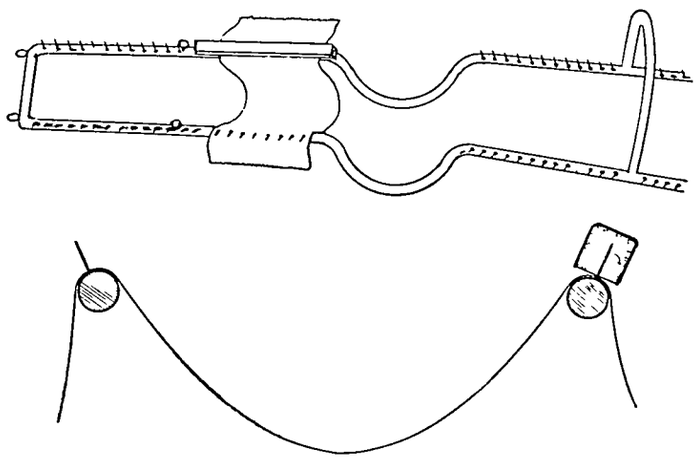


Fig 2—Details of splint

Ordinary phonograph needles are used for the pins The holes are drilled a fraction larger than the needles, and to a depth of about one-fourth inch The needles are dropped into the holes, and the soft steel is set round them by a sharp edged tool, they are fastened securely To prevent tearing and scratching of the physicians and attendants, channels are made by a tinsmith, one-half by one-half inch, and as long as practical, and two layers of strip cork, such as is used by automobile mechanics for gaskets, are glued into them After adjustments have been made, the cork channels are pushed down over the rows of projecting pins, fastening them solidly

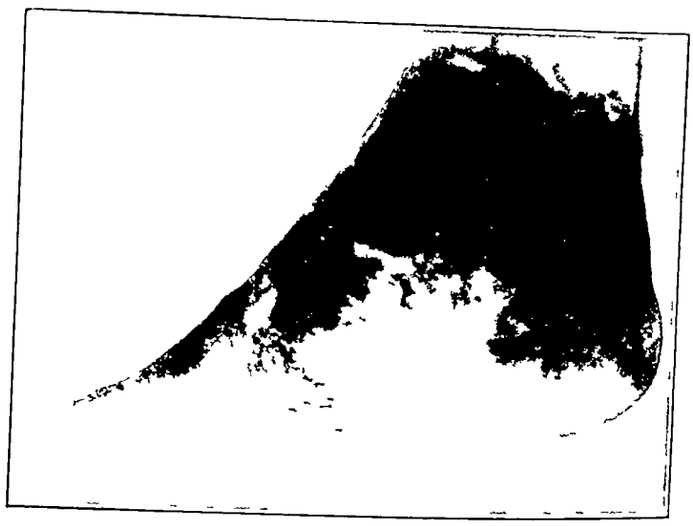
The swathes are set into the row of pins on one side and pulled under the leg and over the edge of the projecting pins on the opposite side, suspending the leg in the regular manner

It will be found that, in combination fractures of the thigh, patella and lower leg, this mode of adjusting the swathes is both practical and of great convenience to the surgeon, and also of great comfort to the patient, because of the accurate adjustments that can be made

## THIRD CASE OF MYCETOMA

GUSTAV A PAGENSTECHER, M D, SAN ANTONIO, TEXAS

In 1922 I[1] reported two cases of mycetoma Since then I have seen a third A married Mexican woman, aged 36, born in Guanajuato of parents who were born and lived there, resided in Mexico until 21, when she moved to Lockhardt, Texas, and engaged in farm labor Five years after coming to Texas, while picking cotton she fell and injured her right foot in the region of the lateral aspect of the ankle, and from this injury she dates the onset of the disease The injury did not break the skin, and there was no visible evidence of injury



Appearance of foot affected with mycetoma

Two months after the injury, the patient's foot began to swell and pain her These symptoms had been progressive since that time After two years of gradual swelling, nodules appeared on the dorsum of the foot, and two years after the nodules appeared, the sinuses made their appearance in the center of the nodules, discharging the characteristic sero sanguineous pus The patient noticed that many small white granules escaped from the sinuses with the pus at frequent intervals

Six months after the onset of the disease she sought medical aid The physician gave the patient no diagnosis, but put her to bed, where the swelling and pain became greater She noticed no systemic effect, and aside from the gradual progressive impairment of function of the right foot, she noticed only swelling and pain The pain was most severe when the sinuses were open and discharging Motion and pressure did not increase the pain

The patient stated that the sinuses periodically opened and discharged, and, in turn, closed only to open at some later date She stated that she had always worn high shoes until the swelling of her foot became so large that this was not practicable

A general physical examination showed the patient to be normal except for her right foot, which was enlarged to about twice its normal size The enlargement was confined to the dorsal, lateral and medial aspects in the region of the ankle joint The skin covering this enlargement was discolored

1 Pagenstecher G A Madura Foot, More Properly Called Mycetoma J A M A 78 1363 (May 6) 1922

shiny, brawny and indurated There were thirteen open sinuses, and about five that were covered with a thin layer of epidermis Five were on the lateral aspect, two on the dorsum, five on the medial aspect and one on the plantar aspect The toes and distal portion of the foot were not involved, and the patient had perfect function of her toes as well as of her ankle joint There was no pain on pressure, and motion of any joint caused no pain A roentgenogram showed an early rarefactive and productive osteitis The blood count revealed red blood corpuscles, 3,936,000, white blood corpuscles, 6,400, polymorphonuclears, 73 per cent, lymphocytes, 21 per cent, large mononuclears, 4 per cent, transitionals, 1 per cent, eosinophils, 1 per cent The urine was amber and cloudy, and slightly acid The specific gravity was 1 024 There was an albumin ring Tests for sugar were normal There were many pus and epithelial cells The Wassermann reaction was negative The pus, which was easily collected, showed small white granules about 2 mm in diameter, slightly egg shaped The exudates showed pus cells with an abnormal amount of serum and the typical bodies

Microscopic examination of the bodies showed a central clear zone that had many branching, mycelial threads, each segment of which had a nucleus The fresh tissue stained with eosin readily, and showed a central clear zone with the red branched threads

April 3, 1923, I amputated the leg at the junction of the middle and lower third Three months later the patient was given an artificial limb, and she has been able to get about a great deal better than she could with the diseased member I believe that, from an economic point of view, an early amputation in this infection should be done Up to the present time, the patient has had no local recurrence, and there is no evidence in any portion of her body of a recurrence

## FOREIGN BODY IN THE INFRATEMPORAL SPACE

J FRANK FRIESEN, M D, LOS ANGELES

The illustration gives the exact size of two of several pieces of wood that were removed from the infratemporal space, where they had lodged for four months following an injury The infratemporal fossae is the open space behind the maxillae, under cover of the tendon of the temporalis, the coronoid process and the ramus of the mandible and the masseter muscle It contains the pterygoid muscles and the internal maxillary artery among the most important

### REPORT OF CASE

A man, aged 51, admitted to Los Angeles General Hospital, Feb 7, 1923, was employed as a foreman on a steam pile-driver when a large splinter, several feet long, broke off, striking on the side of the face

Examination disclosed a deep laceration over the right side of the face The tissues over the malar eminence were macerated and detached The lids of the right eye were torn and contused, the lower lid being severed entirely

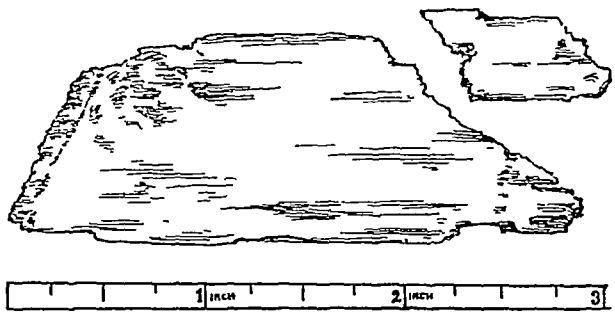
He was taken to the operating room immediately, the wound was cleansed and the torn flaps of tissue were replaced and sutured

After a month, the wound healed but there still remained a suppurative discharge from the region below the outer angle of the right eye There was the possibility of the existence of a foreign body (splinter) in the wounds, or that there was a fracture of the zygomatic bone, with a resultant osteomyelitis

A roentgen-ray examination revealed a definite clouding of the right maxillary sinus No fracture was demonstrated Irrigation of the right antrum resulted in the washing coming through the opening below the eye

A Caldwell-Luc operation was done The antrum was found filled with a purulent secretion, the roof of the antrum, which forms the orbital floor, was necrotic and partially absent In spite of good drainage through a large nasal opening, there was no decrease in the discharge There was some limitation of the movement of the lower jaw The patient's temperature remained normal, he did not complain of pain, and was fairly comfortable

Several roentgenograms of the head were made Bacteriologic examinations revealed nothing of importance After the patient had been in the hospital for nearly four months, during which time repeated efforts had been made to find the cause of the continued suppuration, the wound in the side of the face was reopened The anterolateral wall of the antrum was removed and left open, to allow daily observation and free inspection of the cavity It was then noted that the secretion that collected below the eye, in the upper part of the wound, came from the region back of the antrum The nurse made the observation that the flow of the discharge increased during mastication It became evident that the source of the infection was in the infratemporal fossae (a roomy space behind the maxilla)




Pieces of wood removed from infratemporal spaces

The infra-orbital margin of the zygomatic bone was removed, and the infratemporal space was exposed To my surprise, I discovered several pieces of splinter, which had been the cause of the continued suppuration The long piece of wood lay in a perpendicular position, immediately below the eye, and was wedged so tightly that it was extracted with difficulty It had evidently gained entrance without injuring the eye, by going through the thin infra-orbital plate The patient made an uneventful recovery The absence of the orbital floor has caused the eye to drop, it is hoped to correct this by plastic work

700 Merritt Building

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER, SECRETARY

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SATURDAY, MAY 24, 1924

## AVIATION AND ANOXEMIA

Aviation is no longer merely a part of the functions of the army and navy in their equipment for war-time activities It has become an indispensable vocation in the routine of peace The problems that aviation has raised are for the most part so new, particularly with reference to the personnel involved, that they demand special consideration from standpoints heretofore little, if at all, considered Though the principles of aeronautics were clearly enunciated by Samuel Johnson 165 years ago in his Rasselas, Prince of Abyssinia, it was not until within the twentieth century that air flights began to be practical Much energy has been spent meanwhile on the details of the machines used for flying, but the importance of the human organism in the outfit is just beginning to be recognized properly An army officer familiar with the needs of aviation has remarked that a slack control wire is not more dangerous than a weak eye muscle, a poor mixture of gas and air is not more serious than a flier with poor adaptive respiration, and a poor compression in the cylinder is not of such vital consequence as a weak heart muscle

An ascent of several miles into the upper air, such as has been accomplished in recent times by both American and French aviators, presents some highly unusual conditions that the human body must combat The most important special feature is the combination of cold and low oxygen tension encountered at high altitudes The adaptability of a person for the tasks of aviation depends, of course, on numerous qualifications, many of which are psychologic rather than physiologic In any event, however, he must be able to adjust satisfactorily to some degree of oxygen want if very high altitudes are to be reached

Professor Schneider[1] of the School of Aviation Medicine at Mitchel Field, to whom we are already indebted for noteworthy contributions to the physiology of altitude, has lately pointed out that the response of man to a deficiency in the oxygen supply depends on modifying circumstances It varies with the rate at which oxygen is decreased, the degree to which it is decreased, and the length of time it is decreased A mountaineer may ascend a high peak to an altitude of 15,000 feet without physical effort in a railway car or an automobile Physiologic adjustments often have time to assert themselves Respiratory and blood changes slowly come on, and may be permanent during the stay at high altitudes The alterations in the pulse rate are likely to be slight and gradual In flights to high altitudes, the anoxemia would be developed far more rapidly, and laboratory tests planned to imitate this condition give rise to symptoms quite different from those experienced by the mountaineer It is futile to discuss the details here The point worthy of emphasis is that the respiratory, circulatory and blood changes need not be the same in two types of anoxemia produced under different conditions In other words, as Schneider has clearly pointed out, because a man reacts in a certain way to a sojourn on a high mountain, it is not safe to predict how he will respond to the lack of oxygen experienced during a flight to high altitudes Through the advances in laboratory studies, it has become possible to subject persons to conditions comparable with either type of deprivation of oxygen, and particularly those encountered in aeroplane flight Science thus paves the way to make aviation not only mechanically more efficient but also physiologically more secure

1 Schneider, E C A Comparison of Three Types of Anoxemia, Mil Surgeon 54 328 (March) 1924

## FUNCTION OF THE PERIOSTEUM IN BONE REPAIR

The problems of the growth and repair of the bones inevitably present items of large significance to the clinician Damage to the skeletal structures brings him face to face with the necessity of facilitating a restoration of the injured part, so that a knowledge of the physiologic processes involved may enable him to promote their function in times of such need During the period of development and adolescence, it is of great importance to the individual to enjoy a proper transformation of the growing bones into the adult skeletal parts that constitute even more than a veritable framework for our bodily activities The current interest in the study of rickets is indicative of the importance attached to proper development of the bones Furthermore, it attests the widespread occurrence of abnormalities that call for corrective procedures The indifference that was long shown toward the bones, as though they represented merely dead, inert structures, is giving way to a far more intelligent attitude—to a realization that they are, in truth, "living plastic material which is molded by its position, stresses and environment"

In this renewal of studious attention, consideration of late has been fixed primarily on the materials concerned in bone development, and notably on the rôle of calcium, phosphorus and the more vague factors cur-

rently classed as vitamins It has long been recognized that the process of bone development is a complex one involving, as Mitchell [1] recently summarized it, first, the formation of a comparatively soft cartilaginous structure, resembling the future bone, and, secondly, a process of calcification or hardening, during which inorganic material, chiefly calcium phosphate, is abundantly deposited in the cartilaginous matrix When requirements for calcification are not fulfilled, soft bones result There is the added belief that the growth of the bones is in some way influenced by hormones arising from certain endocrine structures It is defective if the thyroids do not develop properly The reproductive organs seem to have some relation to the development of the bones, and the apparent connection of the hypophysis is emphasized by the consequences of perverted pituitary functions

Not long ago, a physiologist remarked somewhat fancifully that the bones "are alive with their own metabolism" Where is the seat of their activities, that is, where are the osteogenic structures located? The cartilage cells that represent the starting point of the development may degenerate or they may become converted into bone-forming osteoblasts As McCollum [2] has recently pointed out, growth in thickness of the bone shaft is accomplished by cells in a thick layer of connective tissue, which surrounds the shaft and is called the periosteum These connective tissue cells are transformed directly into osteoblasts, and deposit bone in layers beneath the periosteum During growth, and to a lesser extent after growth has ceased, the structure of a bone is subject to constant change to meet the requirements of exercise and altering conditions of stress and strain Old bone is constantly being removed (resorption) and new bone is always being formed In a normal, healthy bone, McCollum adds, these processes are always in a dynamic equilibrium

There was a time when osteogenic power was denied to the periosteum The importance of this structure in the regeneration of bone is, however, coming to be better appreciated This is a matter of particular importance to the surgeon dealing with reparative processes and bone grafts Haas [3] has recently directed attention to the comparable influence of the endosteum in bone renewal His experiments show that the removal of either the periosteum or the endosteum alone is without effect on the healing of fractures in transplanted bones, but the removal of the periosteum and endosteum together causes a complete cessation of proliferation at the fracture surfaces, and consequently a failure of union in every case According to Haas, the chief source of osteogenic cells, for the repair of a fracture in a transplanted bone, is from the osteoblasts of the periosteum and the endosteum The presence of either is sufficient for union The periosteum plays a relatively more active part than the endosteum Consequently, in order to attain a maximum of reparative power for any bone lesion, it is deemed essential to preserve the integrity of both the periosteum and the endosteum

1 Mitchell P H General Physiology New York McGraw Hill Book Company 1923
2 McCollum E V The Newer Knowledge of Nutrition Ed 2 New York the Macmillan Company 1922
3 Haas, S L The Importance of the Periosteum and the Endosteum in the Repair of Transplanted Bone Ann Surg 8 535 (March) 1924

## INSULIN AND KETOSIS

The distribution in nature of substances comparable with pancreatic insulin has been studied by several investigators The term "glucokinin" has been applied to certain of these, said to be derived from yeast and other vegetable sources It is worth while, therefore, to call attention to the fact, well known to biochemists, that various chemical compounds have long been observed to be capable of lowering the content of sugar in the blood as insulin does Macleod [1] has properly given warning that, despite such experimental evidence for the reduction of hyperglycemia, great caution should be exercised in considering these products for clinical use until it is certain that they have no deleterious effects on the liver It is possible also, he adds, that the substances merely stimulate the secretion of insulin from the pancreas of the animal into which they are injected, or serve as precursors for its production If this is the case, then they can have little value in diabetes It must be remembered also that extreme lowering of blood pressure is associated with hypoglycemia According to Macleod, typical insulin, when given to normal animals, should cause immediate reduction of the blood sugar, and, when hypoglycemic symptoms supervene, these should be immediately and permanently removable by injections of glucose When insulin extracts are given to diabetic animals, the symptoms, including primarily hyperglycemia, glycosuria and acetonuria, should immediately disappear and the general condition greatly improve, and when carbohydrate also is given, the respiratory quotient should rise decidedly and glycogen be deposited in the liver

The profound effect of insulin in decreasing ketosis was observed early in the study of the physiology of the newly discovered hormone This represents a secondary phenomenon dependent on the more normal progress of carbohydrate metabolism Thus, fat can be burned without leaving the ketone "clinkers," so that the latter disappear from the urine But ketosis is not confined solely to cases of diabetes It is an accompaniment of the carbohydrate starvation, however produced Acidosis is not infrequently found in preoperative or postoperative conditions, owing to enforced deprivation of food for one reason or another It is found accompanying so-called toxic vomiting, sometimes particularly of the persistent type seen in pregnancy It is not without considerable interest, therefore, to find attention directed to the possible value of insulin in the treatment of nondiabetic

1 Macleod J J R Insulin Physiol Rev 4 21 (Jan) 1924

acidosis The alleviation of this condition through effective administration of glucose by rectum or parenterally has been demonstrated by various clinicians The recovery is said to require several days More prompt success has been reported by Thalhimer [2] and by Fisher and Snell [2] through the combined use of insulin hypodermically and glucose intravenously It is far too early to generalize broadly from the few successful treatments recorded, but there is sufficient scientific background to the project of testing the curative power of insulin-glucose treatment for pernicious vomiting and other comparable conditions to warrant giving it careful consideration The procedure is not free from some element of danger that should not be minimized Insulin therapy demands care in the case of the diabetic patient, doubly great is the need of intelligent precaution with the nondiabetic patient

## BACILLUS ACIDOPHILUS THERAPY

The use of milk soured by the accidental presence of acid-producing bacteria, or by the intentional addition of certain types of micro-organisms for therapeutic purposes, is not new It has been recommended by physicians and practiced among the laity for a long time The question as to whether it brings about any specifically useful effect, and, if so, wherein the advantageous potency may reside, has been the subject of prolonged discussion To many persons the soured milks are particularly palatable, so that they invite the ingestion of the components of milk by those who might otherwise decline the use of this wholesome food It has been argued that the digestibility of milk is greatly enhanced by the presence of the fermentation acid which decreases the buffer index of the milk This is in harmony with the recommendations for the addition to cow's milk, in the feeding of infants, of either hydrochloric acid, as proposed by Faber, or lactic acid, as championed by Marriott Others have pointed to the viable bacteria in soured milks as the agencies to which alleged benefits are attributable, and they stress, in particular, the possible rôle of lactic acid producing micro-organisms in altering the bacterial flora of the intestine through the implantation of the strains found in the soured milks

There seems to be a preponderance of opinion, if not a consensus, at present that a wide clinical observation justifies the belief that, for certain types of gastric and intestinal disturbances, soured milk accomplishes more than sweet milk with a similar content of proteins, fats and sugar However, the history of the exploitation of *Bacillus bulgaricus* in this connection has furnished a proper warning against overenthusiasm for any particular hypothesis in relation to soured milk therapy The pendulum of enthusiasm for Metchnikoff's assertions, and more especially for the special application of the theories that seemed to receive his support, has ceased to swing in one direction, in fact, it has virtually been brought to rest with the discrediting of the unwarranted assumptions and the inadequate observations on which many of them rested

Meanwhile, a somewhat better plea seems to have been advanced for *Bacillus acidophilus,* which has found its foremost champion in Rettger of Yale University Through the use of milk cultures of this organism, it seems demonstrated beyond reasonable doubt that, in man, a transformation of the intestinal flora from a proteolytic to an aciduric type can generally be induced In cases of constipation, beneficial effects in the direction of more ready defecations are said to arise Bacillus acidophilus milk has at least attained the dignity of tentative recognition by the Council on Pharmacy and Chemistry of the American Medical Association,[1] though this must by no means be interpreted as recommendation How may *Bacillus acidophilus* be assumed to act beneficially? Kopeloff [2] pointed out not long ago that the action of Bacillus acidophilus milk is neither strictly physical nor chemical, that is, it does not depend on volume or chemical constituents, but appears to be essentially a bacteriologic phenomenon This conclusion was based on the fact that neither sterile skim milk nor sterilized Bacillus acidophilus milk influenced constipation, as did Bacillus acidophilus milk in which the viable organisms were uninjured The experiments were open to some criticism on the ground that sterilizing Bacillus acidophilus milk caused a change in chemical composition Consequently, Kopeloff and Beerman [3] have tested the effects of the acid milk after separation of the micro-organisms by centrifugation and appropriate filtration The chemical constituents were little altered in the filtrate, yet, when fed to patients suffering from constipation, it was practically without effect Regular Bacillus acidophilus milk ingested subsequently resulted in an increase in the number of normal defecations So far as the evidence accumulated warrants generalization, it seems to justify the conclusion that *Bacillus acidophilus* therapy is essentially bacteriologic rather than physical or chemical in nature

2 Thalhimer, William Insulin Treatment of Postoperative (Non diabetic) Acidosis, J A M A **81** 383 (Aug 4) 1923, Insulin Treatment of the Toxemic Vomiting of Pregnancy, ibid **82** 696 (March 1) 1924 Fisher, David, and Snell, M W The Insulin Treatment of Preoperative and Postoperative Nondiabetic Acidosis, ibid **82** 699 (March 1) 1924

1 Lactic Acid Producing Organisms and Preparations, J A M A **81** 831 (Sept 8) 1923

2 Kopeloff, Nicholas Is the Action of Bacillus Acidophilus a Strictly Bacteriologic Phenomenon? J A M A (March 3) 1923, Clinical Results Obtained with B Acidophilus Milk, Proc Soc Exper Biol & Med **20** 424 (May 16) 1923

3 Kopeloff, Nicholas and Beerman, Philip Studies on the Nature of Bacillus Acidophilus Therapy, Arch Int Med **33** 55 (Jan) 1924

**Hilum Node Tuberculosis**—Tuberculosis of the hilum nodes does occur, it occurs more commonly in children, the incidence is anywhere from 40 to 70 per cent, it has primary manifestations, it is an acute condition and may be of serious importance Furthermore, hilum node tuberculosis occurs without and with pulmonary disease—J A Honeij *Am Rev Tuberc* **9** 9 (March) 1924

# Current Comment

## THE SIGNIFICANCE OF AMMONIA FORMATION IN THE KIDNEYS

The kidneys are charged with the function, among other renal activities, of regulating not only the osmotic relations within the body, but also the relative quantities of basic and nonvolatile acidic radicals Since an excess of acid in the body is more likely to occur, the mechanism for eliminating acid and conserving base is of the greatest practical interest As Wilson[1] has recently pointed out, the limit of reaction of the urine must necessarily limit the efficiency of the kidneys for excreting acids, and might easily lead to an excessive loss of base or a piling up of acid in the organism However, the substitution of ammonia for some of the fixed base occurs and permits the elimination of acids in the form of neutral salts, and a retention of the fixed base by the body It is not difficult to conceive of the formation of ammonia in the organism through deamination of amino-acids that are continually liberated and present in the organism The bulk of the product of such denitrogenation is converted into urea, part of it may serve to unite with any excess of acids awaiting excretion from the body Where and precisely how this neutralizing effect is produced has not been clearly demonstrated The actual existence of the neutralization is well attested by the large increment in ammonia output in the urine that attends increased genesis of acids in the organism, as in certain types of diabetes However, the ammonium ions are decidedly toxic, so that the concentration in the blood must necessarily be very small if untoward consequences are to be averted It was highly significant, therefore, when Nash and Benedict,[2] in 1921, propounded an explanation of the origin of the urinary ammonia that would account satisfactorily for all the observed facts According to these authors, the ammonia that finds its way into the urine is produced by the kidneys The ammonia production might thus be pictured as another phase of the regulatory mechanism in that organ whereby the needed basic materials are reserved, partly by secretion of an acid urine and partly by this localized production of ammonia Under these conditions the amounts of ammonia in the blood have, of course, virtually nothing to do with the quantities excreted The Nash-Benedict hypothesis has received an emphatic substantiation from the clinical data reported by Rabinowitch[3] of the Montreal General Hospital They show that the production of ammonia per liter of acid excreted is greater in normal than in nephritic persons In normal persons, the formation of ammonia is approximately 1 gm per liter of total acid, whereas in nephritic persons it may be much less The average values are lower also for diabetic patients with renal lesions than for those without evident kidney involvement Rabinowitch points to the general clinical experience that diabetic persons with nephritis are more susceptible to an acidosis than those with no nephritis, assuming other conditions as being constant This, in great part, is attributed to the vulnerability of the kidneys The small ammonia content of the blood no longer has the significance that was once attached to it

1 Wilson D W Neutrality Regulations in the Body Physiol Rev 3 295 (July) 1923

2 Nash T P Jr and Benedict S R The Ammonia Content of the Blood and Its Bearing on the Mechanism of Acid Neutralization in the Animal Organism J Biol Chem 48 463 (Oct) 1921

3 Rabinowitch I M The Origin of Urinary Ammonia Arch Int Med 33 394 (March) 1924

# Association News

## THE CHICAGO SESSION

### Handbook of the House of Delegates

May 17, the Handbook of the House of Delegates was mailed to all delegates whose names and addresses had been reported to the Secretary of the American Medical Association Delegates who fail to receive the Handbook should immediately notify the Secretary of the Association

### Bring 1924 Pocket Cards

Prompt registration will be greatly facilitated if all Fellows will bring 1924 pocket cards and present them, together with their filled in registration cards, at the windows of the Registration Bureau This bureau will be ready for business at 8 30 a m, Monday, June 9

### Return Certificates to Be Secured from Ticket Agents

Many Fellows, expecting to attend the Seventy-Fifth Annual Session of the American Medical Association, June 9-13, have written the Secretary requesting that certificates be sent them to be used in securing reduced railroad fare As has been repeatedly stated in THE JOURNAL and in the *American Medical Association Bulletin*, return certificates must be secured from ticket agents at the time tickets to Chicago are purchased Full fare must be paid for tickets to Chicago The return certificates, secured from agents at the time tickets to Chicago are bought, will, when properly signed by the Secretary and validated by a special agent of the railroads, entitle holders to one-half fare for the return trip to their homes No reduction in fare can be obtained unless these certificates are secured when tickets to Chicago are bought, nor unless they are properly signed and validated at the Registration Bureau on the Municipal Pier in Chicago

### Alpha Mu Pi Omega Medical Fraternity

The Alpha Mu Pi Omega Medical Fraternity will have a buffet luncheon for all chapter members at the University Club, corner of Michigan Avenue and Monroe Street, Chicago, Thursday, June 12, during the regular luncheon hour Those who expect to attend are requested to notify Dr William Thorndike, 210 Wisconsin Street, Milwaukee, before June 10

### Association of American Teachers of the Diseases of Children

The Association of American Teachers of the Diseases of Children will hold a meeting at the Drake Hotel, Chicago, Tuesday, June 10, at 2 p m Dr Julius H Hess, 104 South Michigan Avenue, Chicago, is in charge of arrangements for this meeting

### Interns of Chicago Hospitals

The Committee on Fifth Year Instruction and Organization of the Chicago Medical Society, appointed to interest interns of Chicago hospitals in medical organization and otherwise to be helpful to these young men, has requested that such interns be permitted to attend the meetings of the sections of the Scientific Assembly at the coming annual session All interns of Chicago hospitals will be given guest badges on presentation of proper credentials at the Registration Bureau on the Municipal Pier

### Free Parking Space

There will be abundant space for parking automobiles within a block of the entrance to the Municipal Pier All those who expect to come to Chicago in motor cars may feel assured that they can find room for their cars within a convenient distance of the Pier

### Local Attendance Committee

The Local Attendance Committee, a subcommittee of the Committee on Registration, is making an earnest effort to effect a 100 per cent registration among the members of the Chicago Medical Society Dr Emmett Keating, Room 1522, 25 East Washington Street, Chicago, is the chairman of this committee Only Fellows of the Association can register and participate in the work of the Scientific Sections

## Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC)

### CONNECTICUT

**Parents Sentenced for Refusing Vaccination**—Charged with refusal to permit their three children to be vaccinated in order to attend public school, James G Brown and his wife, of Hartford, were sentenced to five days in jail by Judge Creedon, May 12, in lieu of paying the $10 fine imposed on them The antivaccinationists, who lost their fight against compulsory vaccination in the last legislature, are being aided by the Connecticut Medical Liberty League, it is reported

**Diploma Inquiry Continued** — The grand jury which recessed, April 30, resumed sessions, May 13 Seventy-six appeals have been filed in the court, together with injunctions restraining the state council of health from revoking the licenses to practice medicine issued by the state eclectic examining board, all of which are to be determined by the state referee There were 175 names referred to the eclectic examining board, through the medium of the grand jury, for revocation of licenses (THE JOURNAL, February 16, p 535) Among the witnesses were Dr Joseph R Sintzel, secretary of the St Louis College of Physicians and Surgeons, St Louis (the state's "surprise witness"), Dr Frederick C Waite of Western Reserve University School of Medicine, Cleveland, Dr Nathan P Colwell, Chicago, secretary of the Council on Medical Education and Hospitals of the American Medical Association, Dr William P Sachs, formerly state examiner of public schools in Missouri, and Harry Brundidge, reporter of the St Louis *Star*

"Dr" George M Sutcliffe, now serving time in prison, was brought from jail, May 14, to testify against some of his former classmates, but he "failed to recognize" many of them Sutcliffe was formerly registrar to Dean Waldo Briggs at the St Louis College of Physicians and Surgeons, St Louis Seven cases were brought into the hearing at the outset, these being the cases of Maurice Burstan, Lillian Burstan, Gerald Richardson, Bernard Kafka, Harry Chaimson, Isidor Yockelman and Arnold Brien A fight is reported to have taken place in the morning of May 13, when Yockelman and Maurice Burstan attempted to strike the witness Brundidge Brundidge knocked them both down, and Detective Hickey ejected both the "physicians" from the building, according to reports It was learned that the registry and the ledger of the St Louis College of Physicians and Surgeons, that Dr Sintzel reported stolen, were taken from the safe of the college, May 4

Dr Frederick Waite told of his visit to Boston as representative of the American Medical Association to determine the standing of the Boston College of Physicians and Surgeons and the Middlesex College of Medicine and Surgery He stated that they were found to be of such low grade that the students could not be exempted from military service to be trained in medical work (THE JOURNAL, March 22, p 978) Dr Sintzel testified that he knew of one freshman, Val Rapp (Green Bay, Wis ), who in 1920 was advanced from the freshman to the senior class that year, and that, in 1920, Gerald Joseph McGladigan, a junior, was granted a fraudulent diploma, the name which had originally been inscribed having been erased and that of McGladigan substituted McGladigan confessed that "Dr" George Sutcliffe had made the erasure and the substitution Dr Nathan P Colwell, Chicago, testified that the medical schools and colleges involved in the Missouri diploma mill scandal were all Class "C" (a rating of less than 50 per cent on inspection and examination)

The annual meeting of the Connecticut Eclectic Medical Association which was to have been held at the Hotel Garde Hartford, May 13, was postponed indefinitely, as only about four members, including the president and secretary, appeared The interest of all the eclectics was centered on the courthouse where the appeals of the eclectics whose licenses were revoked were being heard

### DISTRICT OF COLUMBIA

**District Society News**—A committee consisting of Drs Edgar P Copeland, Frank Leech, Henry C Macatee, Luther H Reichelderfer and John D Thomas has been appointed to prepare a new medical practice act for presentation to Congress in the fall——During Cancer Week, April 7-12, a diagnostic cancer clinic was held in the Medical Building More than 300 consultations were given during the week——Major Edmund B Spaeth, M C, U S Army, addressed the section on ophthalmology and otology in Washington, May 16

**Philadelphia Medical Club Visits Washington**—To celebrate the thirty-third anniversary of the Philadelphia Medical Club approximately 600 physicians of Philadelphia made a pilgrimage to Washington, May 15 There are 1,250 members in the club of which Dr William Duffield Robinson is president President Coolidge received the members on the White House lawn following which they visited the Smithsonian Institute, the Walter Reed Hospital, the Army Medical Museum and Arlington Cemetery Wreaths were also placed on the graves of Dr Benjamin Rush and of Dr Samuel D Gross

### GEORGIA

**Personal**—Dr Samuel A Anderson, Macon, has been appointed health commissioner of Baldwin County to succeed the late Dr George L Chapman

**County Meetings**—Brooks County Medical Society has elected Dr Jack R McMichael, Quitman, president for the coming year——Drs Mark E Perkins and Cleveland Thompson, both of Millen, were elected president and secretary, respectively, of the Jenkins County Society——At the annual meeting of the Franklin County Medical Society, Dr Stewart D Brown, Royston, was elected president, and Dr B T Smith, Carnesville, secretary

### ILLINOIS

**Society News**—At the annual meeting of the Jersey County Medical Society in Jerseyville, April 23, Dr Hugh R Bohannan, Jerseyville, was elected president, Dr Henry R Gledhill, Jerseyville, vice president, and Dr 'Bert M Brewster, Fieldon, secretary-treasurer——At the forty-seventh annual meeting of the Central Illinois Medical Society at Pana, April 29, Dr Robert L Morris, Decatur, was elected president to succeed Dr Dorwin D Barr Dr Samuel B Herdman, Taylorville, was elected vice president, and Dr Franklin A Martin, Pana, secretary-treasurer

**Incidence of Goiter in Students**—According to the annual report of the health officer of the University of Illinois, among 1,335 women in the three upper classes, 445, or 33 per cent, have an enlargement of the thyroid gland Only 234, or 6 per cent, among 3,709 men students in the same classes are thus affected From the zone including Chicago and territory in Illinois within fifty miles of that city (including Cook, Lake, Kane, DuPage, Kendall, Will, Grundy, Kankakee and McHenry counties), 45 per cent of the women students were goitrous

**Infant Mortality Rate**—Recently compiled statistics show that the 1923 infant mortality rate for the state was 81 9 per thousand live births reported, against 77 6 for 1922 The increase in rate accounted for a total rise of 623 in the number of deaths among infants less than a year of age The total number of such fatalities in the state during 1923 was 10,810, against 10,187 during the year before The highest county rate in 1923 was 168 4 for Alexander, and the lowest was 42 2 for Hancock Cairo, with 155 3, had the highest city rate, while Oak Park, with 37 2, had the lowest The rate for Chicago was 87 3, while that for downstate was 76

**Campaign to Establish County Health Departments**—The establishment of full time, efficient county health departments is the chief object of a campaign recently opened by the state department of public health In this movement, the state will have active support from the federal government Dr Thomas Parran of the U S Public Health Service is already in Illinois, assigned for duty under the direction of the state department of public health He will spend his

entire time, during the immediate future, in promoting and organizing county health units Staff members of the state department will be available for the same purpose Federal funds from the U S Public Health Service for subsidizing a limited number of county health units that may be organized under Dr Parran's direction are available for immediate utilization Communications from local sources relative to the whole proposition are encouraged

### Chicago

**Personal**—Prof Roswell P Angier, Ph D, director of the Psychologic Laboratory of Yale University, New Haven, Conn, has been appointed professorial lecturer in psychology at the University of Chicago, and William Taliaferro, of Johns Hopkins University, Baltimore, associate professor of hygiene and bacteriology——Dr Frank Smithies, professor of medicine, University of Illinois College of Medicine, addressed the combined medical and surgical sections of the Ohio State Medical Association at its annual meeting in Cleveland, May 15, on "The Results of Eight Years' Treatment of Peptic Ulcer by the Physiologic Rest Method, and Without the Use of Alkalies or Lavage"

**Chicago Meetings**—The second annual meeting of the American Association for the Study of Allergy will be held in Chicago, June 10, under the presidency of Dr Grant L Selfridge, San Francisco Among the speakers will be Drs William Ray Shannon, St Paul, George N Jack, Buffalo, George Piness, Los Angeles, and Karl K Koessler and Harry L Huber of Chicago——The American Association of Industrial Physicians and Surgeons will meet at the Auditorium Hotel, Chicago, June 9-10 Dr Loyal A Shoudy will preside——The American Radium Society will hold its annual banquet at the Drake Hotel, June 9 Professor Regaud of the Radium Institute of the University of Paris and of the Curie Foundation, will be a guest of honor with Drs Howard A Kelly, Baltimore, and James Ewing, New York Reservations for the dinner can be obtained from Dr Henry Schmitz, Chicago, up to the morning of June 9——A meeting of the American Association for Study of Goiter will be held in the Hotel Sherman, Chicago, Tuesday, June 10, preliminary to the meeting of the scientific sections of the American Medical Association

### INDIANA

**Dr Wishard Honored**—Dr William N Wishard, Indianapolis, has had the degree of doctor of laws conferred on him by Indiana University, Bloomington, in connection with the celebration of the hundredth anniversary of the institution Dr Wishard is professor of genito-urinary surgery at the Indiana University School of Medicine, Indianapolis

### IOWA

**Iowa Wins in Health Educational Work**—For the fifth time in as many years Iowa schools are leaders in health educational work, according to an announcement from the National Tuberculosis Association of New York In the national interschool contest in the modern health crusade work for the first half of the present school year, Iowa won four out of the eleven first prize banners Two hundred and sixty-eight prize pennants have been awarded to Iowa schools for excellence in practical health work This is nearly half the total number awarded throughout the country

**State Medical Meeting**—At the seventy-third annual meeting of the Iowa State Medical Society in Des Moines, May 7-9, the following officers were elected for the ensuing year president, Dr Frank M Fuller, Keokuk, president-elect, Dr S A Spilman, Ottumwa, vice presidents, Dr William H Rendleman, Davenport, and Dr Thomas U McManus, Waterloo, secretary, Dr Tom B Throckmorton Des Moines, and treasurer, Dr Addison C Page, Des Moines, both reelected The next annual meeting will be held in Des Moines, May 13-15, 1925 An amendment was made to the by-laws as follows "Any person practicing the methods of any cult or who counsels with or who is professionally associated with any person practicing the methods of any cult not recognized by or taught in standardized medical colleges, who refuses to discard such methods of practice, or such association, shall be expelled from the membership of the society"

### KANSAS

**State Medical Meeting**—Officers elected at the meeting of the Kansas Medical Society in Wichita, May 7-8, for the ensuing year are as follows president, Dr Alfred O'Donnell, Ellsworth, vice presidents, Drs Francis A Carmichael, Osawatomie, Orlan D Sharpe, Neodesha, and Frank C Boggs, Topeka, treasurer, Dr George M Gray, Kansas City, and secretary, Dr John F Hassig, Kansas City, reelected The 1925 meeting will be held in Topeka, May 5-7

### KENTUCKY

**Chiropractors Fined**—According to reports, S D Porter, Central City, and Dr N T Risner, Greenville, chiropractors, were found guilty of practicing medicine without a license, April 26, and fined $50 each

**Personal**—Dr Raymond E Finnie, Paducah, has been appointed prison physician for the Frankfort Reformatory to succeed Dr William H Evans——Dr Irvin Abell, Louisville, has been appointed a member of the Jefferson County Board of Health

**McMurtry Library Donated to University**—The University of Louisville medical department has received a collection of McMurtry memorabilia about which it hopes to develop a historical museum A portrait of Dr Lewis S McMurtry, painted by Ferdinand G Walker, will be hung in the school library Miss Mary L McMurtry, daughter of the deceased physician, has presented his entire library, which includes the transactions of the American Gynecological Association and the American Surgical Association for many years and copies of editions of rare publications Letters from Oliver Wendell Holmes, Ephraim McDowell and Samuel D Gross are included, and a scrap book kept at the time Dr McMurtry was president of the American Medical Association

### LOUISIANA

**Tuberculosis Conference**—In response to invitations from the president of the state medical society, Dr C V Unsworth, more than a hundred persons attended a luncheon, May 12, to discuss the extension of tuberculosis control in Louisiana Dr Linsly R Williams, managing director of the National Tuberculosis Association, and Dr William Paterson, Cleveland, who spoke, emphasized the need of a state institution

### MARYLAND

**American Orthopedic Association**—The thirty-eighth annual meeting of the American Orthopedic Association was held, May 15-18, in Baltimore and on the Chesapeake Bay The convention opened with an operative clinic at the Johns Hopkins Hospital in which Dr John M T Finney, Dr William S Baer (president) and Dr George E Bennett took part, followed by a scientific session at the University of Maryland Hospital On the evening of the 15th, the members and their wives embarked on the steamship *City of Norfolk*, which had been chartered for a four-day cruise Scientific sessions were held each morning and the afternoons were spent on land, while the evenings were devoted to entertainment on board ship The party visited Yorktown, Annapolis, Norfolk and other points of interest

**Board to Plan Needs of Johns Hopkins University**—A single committee of ten members charged with planning all present and future needs of the Johns Hopkins University and Hospital was recently created, with final ratification of the personnel by the board of trustees of the hospital Similar action was taken by the university some time ago Headed by Frank J Goodnow, LL D, president of the university, the committee has been empowered to outline a program of university and hospital advancement commensurate with the role of leadership in education and science held by the institution over a long period of years Three members each from the university and the hospital boards and four ex-officio members constitute the new committee The university representatives are Benjamin Howell Griswold, Jr, LL B, Dr Jacob Hall Pleasants, Jr, and Blanchard Randall George Cator, Ph D Dr Henry Barton Jacobs and Dr Richard J White were named from the hospital board The other members, besides Dr Goodnow, are Dr Winford H Smith, director of the hospital, R Brent Keyser, president of the university board, and Henry D Harlan, president of the hospital board As separate corporations the university and the hospital have individual boards of trustees However, the activities of the two institutions are so interlocked it is imperative for them to function jointly in a plan for future developments

**Personal**—Dr Mary Sherwood, director of the municipal bureau of child welfare, Baltimore, has tendered her resignation to Dr C Hampson Jones, commissioner of health, to take effect July 1 Dr Sherwood will go to Christiania, Norway, as a delegate to the convention of the International

Federation of University Women, to be held the latter part of July, and will remain abroad after the convention indefinitely Dr Sherwood organized the bureau of child welfare in February, 1919——Dr C U Ariens Kappers, director of the Central Institute for Brain Research, Amsterdam, gave a lecture on "The Structural Laws of the Central Nervous System," May 16, in the medical amphitheater of the Johns Hopkins Hospital The lecture was one given under the auspices of the Herter Lecture Fund——Dr Haven Emerson, public health administrator, Columbia University, will be one of the speakers at the Southern Hotel, Baltimore, May 27, under the auspices of the American Committee for the Relief of German Children Dr Emerson recently returned from a health survey of German cities——Prof Reynold A Spaeth, Ph D, associate professor of physiology at the School of Hygiene and Public Health, Johns Hopkins University, Baltimore, has accepted a three-year appointment as visiting professor of physiology at the Medical School of Chulalongkorarn, Bangkok, Siam The appointment was made by the Rockefeller Foundation, and Dr Spaeth will sail in October for Bangkok

## MASSACHUSETTS

**Chiropractor Convicted**—E J DeLorme, Spencer, was found guilty of practicing medicine without a license in the East Brookfield District Court, April 22, and fined $100, it is reported

**Pediatricians Meet**—A meeting was held at the Boston Medical Library, May 9, under the auspices of the New England Pediatric Society, at which Dr Alphonse R Dochez, New York, and Dr Francis G Blake, New Haven, Conn, spoke on the etiology of scarlet fever and the elaboration of a specific therapeutic serum

**Health in Rural Communities**—The committee of ways and means of the House of Representatives recently recommended that the department of public health should investigate the conditions existing throughout the commonwealth with respect to the maintenance of adequate and competent health and medical service in the sparsely settled districts

**Bill for Hospital Maintenance**—A bill has been introduced for the purpose of erecting additional buildings for the Boston City Hospital, for remodeling existing buildings, and for the purchase of additional property for hospital purposes It also provides that the city may borrow, outside the limit of indebtedness, within five years from the passage of this act, such sums as may be necessary, not exceeding $2,000,000, and may issue bonds or notes therefor This act shall take effect on its acceptance by vote of the city council and subject to the provisions of the city charter, provided that such acceptance occurs prior to December 31

## MINNESOTA

**University Appointments**—At the meeting of the administrative board of the University of Minnesota in Minneapolis, April 10, the following nominations for medical school appointments were made Dr Myer N Moss, assistant in obstetrics and gynecology, Dr Hewitt B Hannah, assistant in nervous and mental diseases, Dr Hymen S Lippman, instructor in pediatrics, Drs David M Siperstein and Aaron Friedell, assistants in pediatrics, Dr George N Ruhberg, instructor in neurology, Dr Reuben A Johnson, instructor in medicine, and Drs Kenneth H Sutherland, Laurence H Cady and Harry DeWitt Lees, instructors in preventive medicine and public health

## MISSOURI

**Save Your Sight Day**—The first annual "Save Your Sight Day" was held in St Louis, May 14, under the auspices of the Missouri Association for the Blind Seven free clinics were given by members of the ophthalmic section of the St Louis Medical Society

**Health Board Sued**—According to reports, the Kansas City University of Physicians and Surgeons, May 1, filed proceedings against the state board of health alleging that the school had been damaged by a statement of the board that the institution was not a reputable school of medicine Judge Hall of the circuit court issued a writ requiring the defendants to appear before him, May 10, with full records of the proceedings that resulted in the board's statement

**Personal**—Dr James F Owens, St Joseph, was elected president of the board of health, May 5, succeeding Dr Horace W Carle, resigned——Dr Eugene H Bulloch has resigned as health director of Kansas City——Dr Russell L Haden, professor of experimental medicine, University of Kansas School of Medicine, was awarded the J D Griffith prize of $100 at the annual smoker of the Kansas City Academy of Medicine, May 16, for his paper on "Ocular Pathology Associated with Dental Infection" Dr Griffith offers this prize for the best scientific paper read before the academy each year

## NEW JERSEY

**National Board of Examiners Meets**—The National Board of Medical Examiners, with Dr J Stewart Rodman presiding, opened its annual conference at the Hotel Marlborough-Blenheim, Atlantic City, May 5

**Joint Committees to Consider Expert Testimony**—At a recent meeting of the New Jersey Bar Association, the unreliability of expert testimony was the subject of discussion A committee was appointed to confer with a similar committee representing the Medical Society of New Jersey on measures calculated to eliminate unreliable expert testimony, especially in regard to mental conditions

## NEW MEXICO

**Sanatorium Closed**—St John's Sanatorium, Albuquerque, under the administration of the Episcopal Church, closed its doors, May 1 It was established in 1912 and had accommodation for 100 tuberculous patients

**Health Officers Meet**—The annual meeting of the New Mexico Health Officers' Association was held, May 26, at Albuquerque Dr Leslie L Lumsden, surgeon, U S Public Health Service, and Dr Platt W Covington, field director of the Rockefeller Foundation, gave addresses on "Rural Sanitation" and "Organization of County Health Work," respectively

## NEW YORK

**Committee on Illegal Practice**—In the campaign being made against illegal practitioners by the Kings County Medical Society, a center for medical information has been established in its library building Here the press will be advised as to the scientific basis for "cures" A questionnaire broadcast to assist in locating illegal practitioners resulted in the receipt of 133 definite complaints against cultists and organizations Of these, 124 were located in Brooklyn, eighty-two men and women were alleged to be practicing medicine without a license, seven were accused of being abortionists, and two of practicing with the licenses of others There were twenty-six general complaints against chiropractors, naprapaths, opticians, optometrists and others using the title of "doctor" The constitution of the society has been so amended as to provide for the organization of a standing committee to be known as "The Committee on Illegal Practice"

### New York City

**Scholarships Available for Postgraduate Study**—Scholarships on the Oliver-Rea Foundation for graduate study in medicine are available at the New York Post-Graduate Medical School and Hospital Inquiries should be addressed to the Dean, 301 East Twentieth Street, New York City

**Benefit Performance for German Physicians**—May 12, the Shuberts gave a benefit performance of *Vogues* for needy physicians in Germany The benefit was held under the auspices of the Association for the Relief of Needy Physicians of Central and Eastern Europe and of the Ladies' Aid Society of the Lenox Hill Hospital

**Charities Merge**—The New York Association for Improving the Condition of the Poor has taken over the Society for the Prevention and Relief of Tuberculosis A new standing committee of the board of managers of the former association known as the Committee for the Prevention and Relief of Tuberculosis, has been organized and has held its first meeting It is believed that the consolidation of these two societies will facilitate the work of caring for the tuberculous poor

**Jury Verdicts of Insanity Opposed**—At the meeting of the New York Society of Medical Jurisprudence, May 12, Dr Carlos F McDonald made the address of the evening He urged that jury verdicts as to a man's sanity in criminal cases be eliminated and that the question of insanity be determined after the conviction of a defendant by a commission appointed by the court He upheld the integrity of the vast majority of alienists and urged the profession to establish the standards of qualification for experts appearing in court

**Child Health Campaign**—Several weeks ago Health Commissioner Monaghan issued an appeal to the parents of all preschool age children, asking that during May every child be given a physical examination Baby health stations and health centers throughout the city conducted by the department of health are at the disposal of the public for the examination of children The examinations are being made by the health department physicians and nurses Dr Monaghan has called on all other organizations conducting children's clinics to give special attention to the younger element among the children during this month Mayor Hylan has also issued a proclamation urging the public to cooperate

**Academy of Medicine Accepts Bust of Pasteur**—At the meeting of the New York Academy of Medicine, May 15, Dr William H Welch of Johns Hopkins University presented the first Arnson bust of Louis Pasteur in behalf of the donor, Mr A Nelson Lewis It was the wish of the late Mrs A Nelson Lewis that the academy should receive this bust as a memorial to her father, Ward McAllister Dr Welch explained that there are three busts of Pasteur by Arnson, of which this is the first, another was presented to the Pasteur Institute by the French government, while the third is in the possession of the Pasteur family The gift was accepted by Dr Linsly R Williams, director of the academy M Brouzet, acting consul-general of France, made a brief address

**Academy of Medicine**—The New York Academy of Medicine recently issued its annual report Among the recommendations are the following

A Wassermann test should be made in every obstetrical case in all hospitals

Institutions for convalescents need a coordinating body to formulate medical and administrative standards and to adjust supply and demand of facilities

Devices must be installed to eliminate dangerous concentration of carbon monoxid from automobile exhaust gas

Rural health centers should be supported locally drug addiction should be made a police problem but needless restrictions should not be put on physicians prescribing for addicts

The medical practice act should be so amended that all who treat disease and injury should be required to meet the same educational requirements

Religious healing should be intelligently guided and in clinics and preventoriums for nervous, mental and personality disorders a clergyman may assist the physician under the latter's supervision

Scarcity of necropsy material for teaching pathology calls for change of archaic laws so that if no objection is made by the next of kin a necropsy can be done in every case within forty eight hours after notification of death A proposed new act to be approved by medical schools is to be submitted for legislative passage

Training of nurses should not exceed two years

**Personals**—Dr Harry M Archer, honorary deputy chief and medical officer of the New York Fire Department, has had conferred on him the highest honor for heroism that the fire department can bestow Dr Archer has been awarded the James Gordon Bennet Medal for a feat performed, March 30, 1923, when he rescued two workmen from the wreckage of two old houses that collapsed while they were being razed——Dr Otto Rank of Vienna spoke on "The Essence of Psycho-Analytic Therapy" before the New York Academy of Medicine, May 13——Dr Henry O Reik has resigned the editorship of the *International Medical and Surgical Surveys* and all other publications of the American Institute of Medicine——Dr Frank Overton, state sanitary supervisor since 1914 in charge of the Long Island district, has resigned in order to accept appointment as executive editor of the *New York State Medical Journal* Dr Richard Slee succeeds Dr Overton as district state health officer——Dr Isaac Glassman was recently elected president of St Mark's Hospital Alumni Association——E V Cowdry, veterinarian of the Rockefeller Institute for Medical Research, sailed recently for South Africa via England to spend a year at the Transvaal University College in Pretoria at the invitation of the dean of the veterinary division, Sir Arnold Theiler, where he plans to study the life cycle of protozoa causing diseases of domestic animals——The board of trustees of the Rockefeller Institute for Medical Research announces the election of Dr Francis Gilman Blake of Yale University School of Medicine, New Haven, Conn, to the board of scientific directors of the institute to fill the vacancy created by the death of Dr Hermann M Biggs

## OHIO

**Hospital News**—Dedication exercises for the new Riverside Hospital Warren, were held, April 12, followed by a banquet at the Warner Hotel——The contract has been let for the erection of the new Mahoning County Tuberculosis Hospital, at Canfield, at a cost of $167 095——The Citizens' Hospital, Barberton, was badly damaged by fire recently No casualties resulted——The contract has been awarded for the construction of the new Starling-Loving Hospital at Ohio State University College of Medicine, Columbus, at a cost of $455,178——It has been announced by nine Cleveland hospitals that they will give medical aid to school children in case of injury When there is neither physician nor nurse at the school, an outside physician cannot be called because the school board cannot legally pay for his services if the child's parents are unable to pay The new plan arranges that after treatment at the hospital the injured child will be turned over to his family physician——The tenth annual convention of the Ohio Hospital Association will be held at Cedar Point, June 10-12 The Ohio Dietetic Association and the Association of Assistant Physicians in State Hospitals will hold their meetings at the same time——A new building exclusively for crippled children will be erected at the Miami Valley Hospital, Dayton, to be known as the Whitmore Memorial Building, it is announced by the superintendent Dr Eli R Crew The cost of erection will be approximately $50,000——The Hempstead Hospital, Portsmouth, is having plans drawn for a $20,000 nurses' home——An addition, including a new service building, will be erected at the Maternity and Children's Hospital, Toledo——The Brotherhood of Railroad Trainmen, Lodge No 425, proposes to erect a $50,000 hospital at Willard The site has not yet been selected

## PENNSYLVANIA

**Veterans' Hospital for Sick Children**—May 15, the state health department announced that the former veterans' tuberculosis hospital at Mont Alto will be turned into a health camp for undernourished children and children whose parents are tuberculous Arrangements are being made to accommodate 200 children from the section of the state east of Harrisburg Playrooms, classrooms, restrooms, playground facilities and a modern diet kitchen have been provided Physicians, welfare agencies, civic organizations and dispensaries are aiding in the selection of the children who will be taken to Mont Alto, June 1

**Society News**—The seventy-fifth anniversary of the founding of the Philadelphia County Medical Society was celebrated, May 7, by a banquet at the Bellevue-Stratford Hotel Dr Frederick Hurst Maier presided Dr Jacob Solis-Cohen was introduced as the "oldest in membership of the society," and Dr James M Anders gave the historical address Dr Wilmer Krusen, director of health of Philadelphia, and Dr Jacob Parsons Schaeffer, Jefferson Medical College, spoke on "The Society" and "Our Opportunities and Responsibilities," respectively——At the meeting of the Allegheny County Medical Society in Pittsburgh, May 20, Prof Harold D Fish, head of the department of zoology, University of Pittsburgh, spoke on "Evolution and Experiments in Heredity"——The seventy-eighth annual banquet and reception of the Northern Medical Association of Philadelphia was held at the Hotel Adelphia, May 23 Dr Jacob Solis-Cohen was the guest of honor

### Philadelphia

**Damage Suit for Antenatal Injury**—A decision was recently handed down by Judge Gordon in Philadelphia holding that a person may sue and recover for damages received previous to birth A suit was brought by Israel Kein in the name of his daughter against William Zuckerman, whose automobile a month before the birth of the child seriously injured the mother The child was born with a deformity supposedly the result of the accident

**Personal**—Dr C U Ariens Kappers, director of the Central Brain Institute, Amsterdam Holland was the guest speaker at the special meeting of the Physiological Society in the medical laboratories of the University of Pennsylvania May 15 His subject was "The Structural Laws of the Central Nervous System"——Dr Malcolm T MacEachern, president of the American Hospital Association and associate director of the American College of Surgeons was the guest speaker at the meeting of the Philadelphia Hospital Association at the College of Physicians May 14——Prof A Jacob University of Hamburg, Germany, addressed the section on general medicine of the College of Physicians May 19, on 'The Anatomic Relations the Clinical Syndromes and the Physiology of the Extrapyramidal System"——Dr George E de Schweinitz President of the American Medical Association in 1922-1923 and until recently professor of ophthalmology in the University of Pennsylvania School of Medicine, who was presented with a plaque in recognition of his services to

Dr. Robert Reilly Library
A. M. A. Medical College

science, at the congress of the French Ophthalmological Society in Paris, May 14, was given an ovation He was received by Dr Henri Roger, dean of the faculty of medicine of the University of Paris, and introduced by Dr Dors of Lyons, president of the congress

## TENNESSEE

**Vanderbilt University Appointments**—Dr Walter S Leathers, executive officer of the Mississippi State Board of Health, who resigned recently, has accepted the appointment of professor of preventive medicine at Vanderbilt University Medical Department, Nashville, and will take up his work in Nashville following a year in Europe——Dr Hugh J Morgan, resident physician at the Hospital of the Rockefeller Institute, New York, and Dr Charles Sidney Burwell, instructor in medicine, Johns Hopkins University Medical Department, Baltimore, have been appointed associate professors of medicine at the university

## TEXAS

**Personal**—Dr William E Lucey has resigned as city health officer of Cleburne——Dr David L Bettison, Dallas, was unanimously elected president of the Baylor Medical Alumni Association at a meeting held, April 29, at San Antonio

## VIRGINIA

**Public Health Officers Elect**—At the annual meeting of the Virginia Public Health Association in Richmond recently the following officers were elected for the ensuing year president, Dr William S Keister, Charlottesville, vice presidents, Aubrey Straus, state bacteriologist, and Dr William R Culbertson, Norton, health officer of Wise County, and secretary-treasurer, Dr Lonsdal J Roper, director of public welfare, Portsmouth, reelected Dr Powhatan S Schenck, Norfolk, retiring president of the association, was elected to represent the state body on the council of the American Public Health Association

## WEST VIRGINIA

**Hospital News**—A new three-story building will be erected at the Oak Hill Hospital, Oak Hill, in the near future, according to announcements——Dr F G Pettit has been appointed superintendent of Hopemont State Tuberculosis Sanatorium, Hopemont, to succeed Dr Elijah E Clovis, resigned

## CANADA

**News of Societies**—At the annual meeting of the Ontario County Medical Society, held at the Ontario Hospital Infirmary, Whitby, Ont, recently, the following officers were elected president, Dr James Moore, Brooklin, vice president, Dr John M Smith, Beaverton, and secretary, Dr Clarence M Crawford, Whitby

**Public Health News**—The third death from smallpox has been reported from Aylmer, Que The disease has been confined to one family, in which there have been two previous victims——Smallpox has broken out at Port Colborne, Ont, and the local board of health has ordered the vaccination of all public and high school children at the expense of the town

**Hospital News**—In connection with the subscription of $1,000 to the St Michael's Hospital Fund, Toronto, from Mrs Norman Allen and Dr H M Allen, Mrs Allen has advised that she has set aside the sum of $2,000, the income from which is to be used as a prize for the nurse taking the highest standing in surgery at the hospital The purpose of this prize is to establish a permanent memorial to the late Dr Allen, who was one of the founders of St Michael's Hospital

**Dr Banting Awarded Rosenberg Medal**—Dr Frederick G Banting, Toronto, has been awarded the Rosenberg Medal which is given annually by the University of Chicago to the person conferring the greatest benefit on humanity Dr Banting, who was awarded the medal for the discovery of insulin, has already been awarded the Nobel Prize, the John Scott Medal from the City of Philadelphia, an annual grant of $7,500 for life from the Canadian government, the Reeve Prize of the University of Toronto, and has been appointed to the newly created chair of research at the University of Toronto The $1,000,000 Banting Research Foundation has been organized in his honor

**University News**—Rougier Brothers of Montreal have donated $5,000 to McGill University Faculty of Medicine, Montreal, to enable a student to study applied anatomy in Europe On his return the student will teach applied anatomy at the university——Among the recent appointments to the staff of the University of Toronto is that of Dr William M Holman, who has received an associate professorship in bacteriology on the faculty of medicine——The government of Canada will give the sum of $300,000 to Western University Medical School, London, Ont, during the coming year for maintenance, it is stated This grant is made up as follows $50,000 for last year's grant which was withheld by the Drury government, and $250,000, the amount recommended by the Royal Commission last year

**Personal**—Dr John Watson, vice president of Queens University, Kingston, Ont, will announce his retirement from Queens University after fifty-two years of service there——Dr William Harley Smith of Toronto was recently elected president of the Academy of Medicine, Toronto Membership in the association now totals 760——Dr Walter A Sangster, Stouffville, Ont, has been elected president of the board of trade——Dr Russell G MacRobert, formerly of London, Ont, has been appointed associate neurologist to the Lenox Hill Hospital, New York City——Dr Forbes Godfrey, minister of health in the Ontario government, was the guest of honor at the hospitals of the city of London, Ont, recently, in celebration of Hospital Day Dr Godfrey, who was also guest of honor at the Rotary Club, stated in an address that it is hoped to reduce the cost of insulin to those who can pay for it, from 1 5 cents to 1 cent per unit

## GENERAL

**Meeting Date Changed**—The American Child Health Association announces that its next annual meeting will be held in Kansas City, Mo, October 14-16, instead of, as previously announced, October 15-17

**Soldiers' Memorial Dedication**—The dedication of the Camp Merritt Memorial will take place, May 30 Those who were on duty at Camp Merritt (just northwest of Jersey City, N J) during the World War are requested to be present General Pershing will speak

**National Committee for the Prevention of Blindness**—At the annual meeting of the association in New York recently the following officers were elected for the ensuing year president, Hon William Fellowes Morgan, New York, vice president, Dr F Park Lewis, Buffalo, N Y, and secretary, Miss Winifred Hathaway, New York

**American Gastro-Enterological Association**—At the annual meeting of this association, held May 5-6, at Atlantic City, N J, the following officers were elected president, Dr Arthur F Chace, New York, vice presidents, Drs Charles G Lucas, Louisville, and Frank Smithies, Chicago, secretary, Dr John Bryant, Boston, and treasurer, Dr Clement R Jones, Pittsburgh

**Missing Physicians**—Lieut-Col Courtney P Grover, Dayton Military Home, who has been missing since April 22 (THE JOURNAL, May 10, p 1558), was found in Cincinnati——The body of Dr Frederick E Fyle of Geddes, S D, was found in his automobile in Rhyne Creek, near Yankton, where the car had gone through a washed out bridge (THE JOURNAL, May 17, p 1627) A reward of $2,000 had been offered for his discovery

**Mental Hygiene Legislation Committee**—At a recent meeting of the executive committee of the National Committee for Mental Hygiene the advisory committee on legislation for 1924 was appointed as follows Dr George M Kline, Boston, chairman, Dr L Vernon Briggs, Boston, S Sheldon Glueck, Boston Dr James V May, Boston, Dr William C Sandy, Harrisburg, Pa, and Dr H Douglas Singer, Chicago The new committee was appointed as a result of frequent requests for a "model commitment law"

**Physiotherapy Organizations**—The American Academy of Physiotherapy has been duly incorporated under the laws of Massachusetts This society has been organized to facilitate the advancement of physiotherapy Eligibility for membership is primarily membership in the American Medical Association and thorough knowledge of physiotherapy It is the intention of the society to combat, as far as possible, undue and unwarranted claims for treatment Dr Frank B Granger, Boston, was elected president, and Dr Byron Sprague Price, New York City, secretary A special meeting will be held in Chicago, June 9——The third annual convention of the American Physiotherapy Association will be held at the

Drake Hotel, Chicago, June 10-11, under the presidency of Dr Inga Lohne, Brookline, Mass Dr Ray Lyman Wilbur, President of the American Medical Association, will deliver the opening address ——At the sixth annual meeting of the Western Physiotherapy Association in Kansas City, Mo, April 17-18, Dr Loraine A Marty, Kansas City, was elected president and Dr Charles W Fassett, Kansas City, secretary

**Provisional Birth and Mortality Figures for 1923** —The Department of Commerce announces that birth rates for 1923 were lower than for 1922 in twenty-one of twenty-seven states for which figures for the two years are shown The highest 1923 birth rate (34 8 per thousand population) was for cities of Wyoming, and the lowest (15 6) for rural districts of Montana Death rates for 1923 were slightly higher than for 1922 in twenty-five of thirty-six states shown for both years Connecticut, New York and North Carolina have the same rates for 1923 as for 1922, and Colorado, Idaho, Montana, Nebraska, Oregon, South Carolina, Utah and Washington have lower rates for 1923 The highest 1923 death rate (20 3 per thousand population) was for cities of Mississippi, and the lowest (6 5) for the rural districts of Idaho Infant mortality rates for 1923 are generally higher than for 1922, seventeen of twenty-seven states show higher rates The highest 1923 infant mortality rate (117) was for cities of South Carolina, and the lowest (51) for the rural districts of Utah and the cities of Washington Infant mortality rates for both years in twenty-five of forty-five cities of 100,000 population or more, in 1920, are lower than those of the previous year The highest 1923 rate (110) is for Richmond and the lowest (48) for Spokane

**Milbank Fund Health Demonstrations** —The first county health unit to be established in New York state was recently created in Cattaraugus County, where a five-year intensive health demonstration is being carried out under the auspices of the Milbank Memorial Fund The five-year program will consist of work in administration and general operation of rural health work, tuberculosis, communicable diseases, school hygiene, maternity, infancy and child hygiene, mental hygiene, industrial hygiene, sanitation and food inspection Cattaragus County is a typical rural district with a population of approximately 72,000 Dr Leverett D Bristol, county health officer and former health commissioner of Maine, is in charge, with Dr Stephen A Douglas as director of the bureau of tuberculosis and Dr Clarence A Greenleaf, director of the county school hygiene work Other demonstrations are being conducted in Syracuse and New York City, where the Bellevue-Yorkville district has been chosen for a systematized health demonstration In Syracuse, Dr Walter M Brunet, director of the department of medical measures, has recently completed a report of the study of the facilities for the diagnosis, treatment and public health control of gonoccocal and spirochetal infection in the city This work was also undertaken at the request of the Milbank Foundation Dr Haven Emerson, professor of public health administration, Columbia University acted as consultant during the time that the study was being made

## LATIN AMERICA

**Scientific Study in Brazil**—Dr Alexander Hamilton Rice, vice president of the American Geographic Society has organized an expedition for scientific study in Central Brazil for the coming year, and has invited Dr Richard P Strong director of the department of tropical medicine at Harvard University, to conduct a medical expedition in this same region for purposes of scientific investigation Other members of the medical expedition will be Dr George C Shattuck, Dr Joseph Bequaert and Mr Ralph Wheeler

**Personal**—Dr J N Corpas, rector of the University of Bogota, has been appointed minister of public instruction by the president of Colombia Dr Roberto Franco succeeds him as rector ——Dr V Putti, the Italian orthopedic surgeon was tendered a banquet by the profession at Rio de Janeiro on his recent visit He lectured at the medical school on "Arthroplasty" and at the local medical society on 'Congenital Dislocation of the Hip Joint '——Dr Alberto Chueco was the guest of honor at a farewell banquet at Buenos Aires recently, as he was leaving for a study of surgical methods in other countries He is on the editorial staff of the *Semana Medica* ——The University of Buenos Aires has named the clinical pavilion of the Institute for Experimental Medicine in honor of the late Dr Helena Larroque de Roffo the efficient helpmate of the director, Dr A Roffo ——Dr E B Demaria has been commissioned by the Argentine public health service to collect statistics and other data on the prevalence of trachoma and other diseases of the eyes in Argentina The local officials have been ordered to cooperate with him in his trip through the country

## FOREIGN

**Dr Eliot Honored in France**—The Harvard Club of France gave a dinner recently at the Marquery in honor of the ninetieth birthday of President Emeritus Eliot of Boston

**New University**—A new university has been founded by the republic of Armenia at Erivan The professors on the medical faculty have been educated mostly in Germany

**News of Societies**—The Medicosurgical Society of Bologna celebrated its one hundredth anniversary, May 23 ——The next congress of the International Society of the History of Medicine will be held at Geneva in July, 1925 This will be the fifth convention of the society Dr Cumston, Geneva, will preside

**Women's Medical Meeting**—A meeting of the Council of the Federation of Medical Women was held at the London School of Medicine for Women, April 12, under the presidency of Lady Barrett A plan of action was adopted in regard to equal pay for men and women for all positions in the profession It was stated that public authorities were attempting to obtain medical women at a lower salary than medical men Lady Barrett, Dr Christine Murrell, Dr Jane Walker, Dr Dickinson Berry and Miss Louisa Martindale were elected to represent the federation on the council of the Medical Women's International Association, which will convene in London, July 15-17

**Personal**—The suit brought against Professor Spinelli of Naples for malpractice was dismissed by the court as a false and malicious accusation —— Professor Tambroni delivered the historical address at the recent celebration of the centennial of the Ferrara Accademia di scienze mediche e naturali ——Subscriptions are being received for an organized tribute to Professor d'Arsonval in honor of his pioneer work in biologic physics He was Brown-Sequard's successor in the College de France, where he perfected his arsonvalization method Dr Belot, rue de Bellechasse 36, Paris, is the chairman of the committee in charge The occasion for the tribute is his recent promotion to a high position in the Legion of Honor

**Cremation Society of England**—The Cremation Society of England celebrated its fiftieth anniversary, April 29 According to the annual report, during 1923, the total number of cremations in Great Britain was 1,986, a decrease of twenty-three on the figures of 1922, due, it is thought, to the abnormally low general death rate during the year A conference will be held at Wembley Exhibition in August, when the committee formed last year to draft a bill amending the law relating to death certification will report In answer to a questionnaire asking parliamentary candidates their opinion 290 candidates out of 330 were in favor of the reform of death certification and of adopting the practice of cremation in industrial areas

**Society News of Paris**—The National Congress of Ophthalmology met in Paris, May 12 —— The Congress of Legal Medicine was held in Paris, May 20-28 ——The Paris Society of Biology and affiliated societies throughout France met in Paris, June 5 ——The National Congress of Surgeons will convene in Paris, October 6 under the presidency of Professor Tuffier ——A National Orthopedic Congress will be held in Paris in October —— At the last monthly meeting of the American Medical Society of Paris Dr Fuller of the American Hospital, Paris, gave an address on the "Treatment of Diabetes by Insulin ' Dr Walter Kraus, assistant neurologist to Bellevue Hospital New York, and Dr Douglas McAlpine London, gave addresses on epidemic (lethargic) encephalitis French American, English and Japanese physicians attended the meeting

### Deaths in Other Countries

Dr **Richard Paltauf**, professor of general and experimental pathology at Vienna, founder and chief of the state serum institute and of the service for prevention of rabies aged 66 ——Dr **Ismael da Rocha**, retired surgeon general of the Brazilian army, vice president of the Academia Nacional de Medicina, founder and president of the Antituberculosis League in Brazil, aged 66 It is said of him that the entire history of military medicine in Brazil was his work.——Dr **José A Barraquer**, emeritus professor of ophthalmology at the University of Barcelona ——Dr **Antonio da Silva Ferreira**, a leading practitioner of Recife, Brazil, aged 66

# Government Services

### Dates for Opening Army Schools Changed

For the purpose of better administration, Surg.-Gen M W Ireland of the army has changed the dates of courses of instruction at the special service schools of the medical department of the army Heretofore, the basic course of the medical field service school at Carlisle, Pa, has been given from September 1 to December 31 The basic course at the army medical school adjacent to the Walter Reed Hospital, Washington, D C, has been given from January 1 to June 30 On the ground that the climate at Carlisle in the late spring and early summer is more suited for field work than the weather in November and December, it has been decided to have the basic field course at Carlisle from February to June, and the course for the National Guard and for reserve officers at that school from September 1 to October 15 The revised plan contemplates the holding of the basic courses at the army medical school in Washington from September 1 to February 10, and the advanced course for officers from February 1 to June 1

### Veterans' Bureau Legislation

Because of inability on the part of officials in the Veterans Bureau to agree on definite legislation to remove existing inequalities of the medical corps of the bureau, it now seems certain that no legislation will be passed at this session of Congress permanently reorganizing and upbuilding the medical section of the service In 1918, Congress created a reserve corps of the Public Health Service for duty "in time of national emergency" Such emergency arose almost immediately, owing to postwar conditions, whereby the Public Health Service was charged with the duty of providing for the care and treatment of discharged sick and disabled members of the military forces The government at that time started a hospitalization program more far reaching than was ever before witnessed This work was in charge of the Public Health Service until 1922, when, by order of the President, the hospitals and their administration were transferred to the director of the Veterans' Bureau This executive order transferred several hundred physicians of the Public Health Service to the Veterans' Bureau The number included the greater part of the reserve corps on active duty It was necessary for Congress to provide for the pay of these physicians, and on more than one occasion they have been left without status, because, being commissioned officers, few have a civil service status, and probably few would accept such status

In the bill codifying the laws relating to the Veterans' Bureau, Senate bill 2257, the existing law authorizing allowances to commissioned medical officers from the Public Health Service not enjoyed by other medical personnel of the bureau was omitted The result of such omission was to place all physicians of the bureau in the same status as civilian employees This bill passed the Senate in this form The World War Veterans' Committee of the House has, however, reported this bill in an amended form, and such bill contains the following provision relating to the commissioned personnel of the Public Health Service serving in the Veterans' Bureau

> All commissioned personnel detailed or hereafter detailed from the United States Public Health Service to the Veterans' Bureau shall hold the same rank and grade, shall receive the same pay and allowances, and shall be subject to the same rules for relative rank and promotion as now or hereafter may be provided by law for commissioned personnel of the same rank or grade or performing the same or similar duties in the United States Public Health Service, and for all administrative and disciplinary purposes while so detailed, shall be subject to the exclusive direction and control of the director of the Veterans' Bureau

The Senate bill was sponsored by Senator Reed of Pennsylvania, and the House bill by Congressman Johnson of South Dakota, both are ex-service men The Reed-Johnson bill is scheduled for passage by agreement among Senate and House leaders as a veteran aid measure If the Reed-Johnson bill becomes a law in the form above shown, it will be merely a temporary expedient It will make provision for that part of the reserve corps on duty in the Veterans' Bureau The requirement, however, that members of one part (by far the largest part) of the corps of one service "shall be subject to the exclusive direction and control" of the head of another branch of the government creates a situation almost without precedent in government administration

# Foreign Letters

## LONDON

*(From Our Regular Correspondent)*

April 28, 1924

### Epidemic Encephalitis

Epidemic (lethargic) encephalitis has been recognized in this country only in the last five years At first it was regarded as a curiosity, but the number of cases has increased so much that it now occupies an important place in the group of infectious diseases In the first three weeks of April, 649 cases were notified, and the total so far this year has reached 1,409, compared with 454 during the whole of 1922, 1,470, in 1921, 890 in 1920, and 541 in 1919 The following figures for the present year show a serious increase, which is giving concern to the health authorities

| Week Ended | Cases | Week Ended | Cases |
|---|---|---|---|
| January 5 | 10 | March 1 | 86 |
| January 12 | 10 | March 8 | 97 |
| January 19 | 18 | March 15 | 88 |
| January 26 | 18 | March 22 | 126 |
| February 2 | 19 | March 29 | 157 |
| February 9 | 37 | April 5 | 190 |
| February 16 | 33 | April 12 | 206 |
| February 23 | 61 | April 19 | 253 |

It has been noticed that the disease does not select particularly those living in poverty and insanitary surroundings On the contrary, if it has any choice it visits the homes of the thrifty and the professional classes The mortality rate is about 50 per cent, and those who survive are often affected by one of the many disabling sequelae

### The Narrowing British Face

Lecturing to the dental board at the Royal College of Surgeons, Sir Arthur Keith stated his belief that future discoveries would reveal a common cause for enlarged tonsils, adenoids, irregular growth of teeth and contracted palates All these, he asserted, could be traced to a disturbance of the elaborate system of hormones, which interfered with the normal course of growth The nature of the disturbance was a mystery It might be due to a diet in which some vital quality was missing or to insufficient light Whatever the solution, his researches had shown that the shape of the mouth was changing, the palate becoming more narrow and the face longer These conditions were rarely found in British skulls of the pre-Roman period, nor were they normal in Saxon skulls until the eighteenth century, when England became industrial on a great scale Keith has devised a rapid method for recording and measuring the shape of the mouth by getting students and others to bite a piece of card coated with wax This has shown him that a large percentage of the population have not even the remnants of molar teeth, and that at least 25 per cent have grossly deformed palates and corresponding dental irregularities unknown in the stone and bronze ages Keith emphasized the fact that the teeth of nearly every person in England overlap, that is, the teeth of the upper jaw overlap those of the lower This was never found in skulls of the early periods, in all these the teeth met evenly

### The Labor Party and the Hospitals

An important conference of hospital, medical and kindred organizations, organized by the labor party, has taken place The labor party paints an exaggerated picture of the defects of the present system, as it does of the general political system, and brings forward the same remedy—state control—which, overlooking its serious drawbacks, they regard as a universal panacea In a letter to the conference, the labor

prime minister wrote "Our hospital system—if such a chaos as now exists can be dignified by such a title—has been and still remains a symptom of our inadequate civic organization In intention it typifies the good-heartedness of our people, in practice it exemplifies the cooperation of hand and brain workers in the work of the world for which our movement stands, but in effect it falls far short of the achievements that its keenest friends and supporters desire Pending the day when the country becomes more fully aware of the need for prevention—the prevention of destitution as of disease—we cannot stand idly by and allow our curative centers to suffer from neglect The time has come for a survey of the whole field of hospital activity, for a finer realization of the part that medical men and nurses, hospital managers and administrators, play in the life of the people, and above all for the devising of ways and means whereby the great services thus rendered may be pursued free from the unhealthy methods by which some of our hospitals have had to seek finance in these latter days"

Dr Somerville Hastings, a labor member of parliament, spoke on "The Labor View" He said "The present system, without state aid, has failed to provide what the nation needs There is a great deficiency of beds, 160,000 being needed" He objected to the system of patients' payments to general hospitals, which led to hardships among poor sufferers "There is the danger," he remarked, "of the hospitals becoming the nursing homes of the middle classes, while those for whom they were originally intended may be forced on the tender mercies of degrading poor-law institutions" Labor wanted to see a complete hospital system capable of giving the best possible treatment to all needing it, by means of treatment centers in outlying districts, local or cottage hospitals in the smaller towns, county hospitals, and national hospitals in the largest cities, with intimate cooperation between all hospitals

Viscount Knutsford, president of the London Hospital, criticizing the statement as to the extent to which general hospitals were being appropriated by the middle and professional classes, said that an inquiry of all the hospitals showed that 43 per cent of the patients were so poor that they could not pay anything at all toward the cost of their treatment, and it could not be counted as any abuse of our hospitals that they should be used by the artisan or lower middle or professional classes if such men could not afford to pay for the treatment and came within the description of "necessitous poor"

In their demands, the labor representatives showed extraordinary inconsistency The labor member of parliament mentioned above asked that "poor-law infirmaries should be taken over by the local health authorities and converted into first class general hospitals" Now these infirmaries are state supported and state controlled and in administration and above all, in personnel are far behind the voluntary hospitals Hence there is the demand for their improvement It is the individualism of the voluntary system that has secured the cooperation of the philanthropists and the leaders of the medical profession, and produced our voluntary hospital system which has achieved a standard unattained by our state controlled hospitals, and is the envy of other countries

Mr Bishop Harman, chairman of the hospitals committee of the British Medical Association, presented the view of a large part of the medical profession There were he said, only two bodies with defined hospital policies—the labor party and the British Medical Association The policy of the labor party was revolutionary, the policy of the British Medical Association, evolutionary The policy of the labor party was state action by ownership finance and control from the center The policy of the British Medical Association was the development of the existing practice, in which, while there was state action in fields in which it could be best employed, there was local, independent and voluntary action in that part which came closest to the daily life of the people The policy of the labor party had received little support from physicians, for they were so saturated with the triumph of evolution in physical and mental development, both in the individual and in the race, that revolutionary methods had little charm for them Mr Harman characterized as absurd the figures of the labor party as to hospital accommodation England and Wales had ten beds per thousand of population, as against eight in America The essence of the labor party's policy seemed to be the swallowing up of the hospitals for fear that these charities might be a thorn in the side of a unified state scheme, which was envisaged Physicians looked with a friendly eye on the contributory schemes which were such a feature of hospital administration at the present day They would abolish the greatest fault of the large voluntary hospitals, the overcrowded outpatient departments

### The Need of Medical Observation of Child Offenders

A deputation from the voluntary advisory committee to the children's courts of the medical council of the People s League of Health waited on Mr Arthur Henderson, the home secretary, to urge the need for expert medical observation, at an early stage, of young persons brought before juvenile courts, and to suggest that a school of observation, similar to the one at Molle, Belgium, should be established for the purpose Dr E D Macnamara, in introducing the deputation, said that they had long recognized that unwise treatment of the child offender tended to produce deterioration of character and to manufacture the habitual criminal He urged that accurate knowledge of the mentality of delinquent children, and of the causes producing delinquency, was essential in order that the children might be dealt with justly and satisfactorily Reformation and cure should be the aim of the juvenile court, and the retributive aspect of punishment should be very much in the background Cases should be dealt with rather in the spirit of a court of equity than in that of criminal assize

Dr A F Tredgold, an expert on mental deficiency, said that the services of an expert should be available in every children's court, that magistrates should be instructed to make use of such professional aid, and that appropriate and adequate means, not for punishment, but for treatment should be provided where such were needed The home secretary, in replying, said that the home office already was warmly in agreement as to the importance of such observation, and he read an extract from a letter recently sent by his direction to a local authority urging the appointment for this purpose of medical men to be attached to places of detention for juveniles With regard to the precise methods, he was not sure that it would be best to follow exactly the Belgian arrangement but he said that all the points made by the deputation would be fully considered

## PARIS

*(From Our Regular Correspondent)*

April 25, 1924

### Illegal Use of the Title of Doctor

A recent law created the title of doctor of veterinary medicine and provided penalties ranging from 500 to 10,000 francs for (1) those who assume illegally the title of doctor of veterinary medicine or the title of veterinarian, and (2) those who being doctors of veterinary medicine but not doctors of medicine, omit after their doctor's title the phrase of veterinary medicine Prof E H Perreau of the University of Toulouse faculty of law, an authority on medical jurisprudence, states that this law seems to end the controversy which caused so much discussion a few years ago of

the question, Is the assumption of the title "doctor," without further explanation, punishable by law? In Germany, Austria and Italy the title "doctor" is widely used in referring to persons who stand out from the common throng by reason of being well informed in some branch of knowledge, but in France the use of doctor without further reference signifies the person is a doctor of medicine Whether or not the use of the title "doctor" in a way that misleads the public is subject to penalty is therefore an interesting question If the title is assumed to extort money, the person concerned may be legally liable Can one go further in punishing the illegal use of the title, irrespective of actual extortion? Article 259 of our Penal Code provides a fine of from 500 to 10,000 francs for "any one who, wrongfully and in order to attribute to himself an honorary distinction, publicly assumes any title" The question has been frequently raised whether the usurpation of university degrees of all kinds and by various procedures does not come within the scope of this article Perreau holds that it covers such cases and that the penalties prescribed apply to usurping the title "doctor," even without the addition of the words "of medicine" The recent law pertaining to "doctor of veterinary medicine" supports this interpretation, since the veterinarian has not now a right to call himself "doctor" It can therefore be affirmed that in France the use of the title "doctor" by any person who does not have the diploma of a doctor of medicine comes within the scope of Article 259 of the Penal Code

### A Misuse of Prophylactic Propaganda

In previous letters I have mentioned the repeated protests of the medical profession against the advertisements of charlatans, which are found in public comfort stations, and which promise to cure syphilis in two weeks These protests have at last been heard and this deceitful propaganda has been suppressed Now in place of quack advertisements, two posters distributed by the Comite national de propagande d'hygiene et d'education prophylactique are found One poster calls attention to the antituberculosis campaign and gives the address of antituberculosis dispensaries of the Office public d'hygiene sociale, the other points out the danger of venereal disease and gives the address of hospitals and the dispensary of prophylactic hygiene where syphilitics may receive free treatment Dr J Noir, editor-in-chief of the *Concours medical,* protests against this new form of "clandestine publicity," which, he thinks, is likely to bring disrespect on antituberculosis and antivenereal prophylaxis in the eyes of the general public It is being repeated everywhere that there are no disgraceful diseases but simply—diseases, and that victims of venereal disease and tuberculosis are not criminals but patients, worthy of respect and consideration But in order to inform them regarding the dispensaries where treatment can be obtained it is thought advisable to resort to the secrecy of the comfort station! Would it not be better to exhibit these posters, which have nothing objectionable about them, in the usual places where everybody could see them?

### Responsibility of the Surgeon in Leaving a Compress in the Abdomen

Like other citizens, physicians are responsible for injuries to the life or health of others which result from their negligence The plaintiff who holds another legally accountable for injuries must establish that the negligence of which he complains constitutes a tort and that his injuries resulted in consequence thereof But, to prove that the omission of a professional act by a physician constitutes a tort rendering him accountable for damages, the plaintiff must establish that the omission was of such a nature that a physician of experience and knowledge, using ordinary care and prudence, would not have been guilty of the same offense According to a recent decision of the superior court of Colmar, a surgeon who, in performing a laparotomy, leaves a sponge in the abdomen, is not necessarily guilty of a tort by this fact alone, provided it results from circumstances that arise during a regular examination, and provided the most prudent, conscientious and experienced surgeon might, under similar circumstances, have committed such an omission In a strict sense, a surgeon is responsible for the acts of assistants in the operating room, but he cannot alone bear all the criticism During a laparotomy, an assistant or nurse is assigned to count the sponges that are used in the abdomen and afterward withdrawn After the operation, the assistant collects these sponges (which are often numbered consecutively), checks them and verifies the count During this time, the surgeon is giving his whole attention to the patient Can he be held responsible for the carelessness of an assistant who neglects to inform him that a sponge has been left in the operative field? Is he responsible if the surgical nurse failed to do her duty? A surgeon's assistants are often selected by the hospital administration and not by the surgeon himself The question is, therefore, complex, and, to determine the degree of responsibility that rests on every one concerned, the judge must demand in detail an account of the operation and the role assigned to each assistant The facts must be determined in such cases before the point of law can be settled

### Poisoning from Cakes

Some time ago, a party of twenty-five persons ate cakes that were bought at the same bakery Signs of poisoning were soon observed in several members of the party, and one person died several days later The judge of instruction charged with opening an inquiry has received a report of the experts he appointed to make the investigation The eggs used in the preparation of the cakes were good (though rather old), but the shells of the eggs were contaminated on the outside In five cakes examined, *B coli* was found The shells might have been contaminated through contact with dirty fingers, when the cakes were prepared, or with other infectious material An examination of the employees of the bakery did not reveal any typhoid carriers The experts expressed regret in their report that no hygienic regulations affecting the cleanliness of public kitchens and bake-shops had as yet been established

### A Laboratory of Scientific Research

The administrative council of the Ecole dentaire of Paris has decided to create at headquarters a laboratory of scientific research, which will (1) contribute to the development of odontostomatology, (2) serve purposes of instruction, and (3) afford dentists the means for scientific investigations required in their work The laboratory is equipped to perform all kinds of research work in pathologic anatomy, particularly that which pertains to dental surgery and to the bacteriology of buccal ulcerations, dental caries, pyorrhea, abscesses and osteomyelitis When requested by the practitioner, autovaccines will be prepared also

### The Cancer Crusade

The Franco-Anglo-American league against cancer has just held its annual general assembly at the Faculty of Medicine of Paris, under the chairmanship of M Paul Strauss, former minister of public health At this meeting, which was attended by the Marquis de Fanna, representing the ambassador of Spain, M Justin Godart announced the establishment under the patronage of the king, the queen and the queen mother of Spain, of the Spanish league against cancer It was created last month on the same plan as the French league and with a similar program

## HOLLAND

*(From Our Regular Correspondent)*

April 16, 1924

### The Antimalaria Crusade

The report for 1923 of the Commission on Malaria deals particularly with two methods of destroying mosquitoes, namely, the oiling of water surfaces, and destruction during the winter The former method has been employed in certain districts about Amsterdam, Hoorn and Alkmaar, but in general the rural water courses have not been covered with oil Destruction during the winter has advantages over oiling Careful investigation of the winter habits of mosquitoes may be of great practical value Dr Hehewerth, who is studying the movements of mosquitoes in winter in several districts, has shown that they are found chiefly in pig-pens and stables A campaign for the destruction of mosquitoes cannot be effective unless it is somewhat continuous, for many of them remain concealed in cracks in the walls for long periods That the work may be truly effective, they should be hunted and destroyed every day in the barns and stables

In 1923, the central laboratories of Amsterdam, Zaandam and Haarlem made, respectively, 2,248, 341 and 108 microscopic examinations of human blood, with 672, eighty-two and seventeen positive results, respectively This was a considerable decrease over 1922 Practicing physicians report that there are much fewer cases of malaria, and that the quantity of quinin used has decreased from 330 kg in 1922 to 168 kg in 1923

### Visit of Foreign Health Officers

The tour of public health officers inaugurated by the health section of the League of Nations will include Holland, and the guests are expected soon The public health societies and other organizations have combined to give the visitors a bird's-eye view of the public health service in the Netherlands Every day an address will be given on some definite phase of public health work, and, when possible, each subject will be demonstrated by a field trip to one of the institutes The carefully prepared program leads one to expect that the visitors will be very much interested The first reception, April 24, at The Hague, will comprise a general assembly and an address on the organization of public health in the Netherlands and the collection of medical statistics There will be talks on the antialcohol and antituberculosis campaigns, and then a visit will be made to the antituberculosis dispensary of The Hague At Rotterdam, the organization of the antivenereal campaign will be explained At Leiden, a lecture on tropical hygiene will be delivered at the Institute of Tropical Medicine, and the pharmacologic institute will be visited The laboratory of social hygiene, and the vaccine and serology departments, will be visited at the city of Utrecht The party will spend fifteen days in Amsterdam, inspecting and studying the industries, the water works system, the antimalaria campaign the cancer crusade, food inspection, institutions for the insane, public baths, hospital organization, and the training of hospital personnel Talks on the open-air schools, the schools for backward children, and the disinfection and quarantine services, with visits to these places, have been planned Excursions will be made to Arnhem to study the meat inspection service, to Endhoven the modern factory city constructed by the Philips establishments and to the Heerlen mines Finally, a week's study of the communal services of the large cities has been arranged for those who wish to take part

### Trachoma

"Five years of the Campaign Against Trachoma" is the title of a report recently published by the ophthalmologists Smit and Wibaut on work done by the trachoma policlinic in Amsterdam Opened in 1918 at the instance of Professor Staub, this clinic has increased in importance After the policlinic was opened, Dr Wibaut began a campaign to discover in the schools those who had this disease The largest number of victims was listed between 1919 and 1921 Since 1921, there has been a progressive decrease in the number of cases This may be confirmed by an examination of the reports of patients visited in the policlinic and of those found in the schools This work seems to have been crowned with success The authors hope now that within ten years or so trachoma will have practically disappeared

### Esophagitis with Hematemesis

Addressing the Netherlandic Society of Pathologic Anatomy, Dr De Groodt called the attention of his colleagues to the hematemesis that sometimes follows surgical operations and that occurs in advanced cachectic conditions Hematemesis of dark blood usually portends a fatal outcome within from twenty-four to thirty-six hours In studying the pathologic anatomy, including numerous microscopic specimens, Dr De Groodt came to the conclusion that the hematemesis is not due exclusively to autodigestion of the esophageal tunics by the gastric juice He prefers to ascribe the cause to a venous stasis not only in the esophagus but also throughout the digestive tract, producing a passive hyperemia with occasional marked extravasations of blood The microscopic preparations show a hyperfunctioning of the mucous glands, and the secretion is frankly acid In view of these facts, the author considers that we are dealing with a true manifestation of autodigestion, and that we need not hesitate to prescribe alkalis in large doses

Dr De Groodt does not insist on calling this condition esophagitis, the name proposed by Professor De Vries He thinks that the absence of micro-organisms is sufficient evidence to keep it out of the category of affections characterized by infection and inflammation

### Instruction of Backward Children

Children physically or mentally backward had been until recently turned over to private societies, which looked after their education The government has come to believe that it is its duty to provide instruction for this class of children since the public is interested in the character of instruction they receive

The act of 1920 pertaining to primary education brought about what may be regarded as a revolution in school affairs It provided for special primary instruction "in schools to be established for children who, owing to physical or mental defects, or for reasons of public policy, cannot take part in ordinary class instruction, or whose conduct necessitates their instruction in a special manner and under special conditions" Thus, henceforth the instruction of backward or abnormal children will be officially recognized Orders have been issued regulating these special schools and defining the class of children who will attend them The central government will, under certain conditions, grant subsidies to communal and local school administrations that establish schools for backward children

It is evident that the new classes will necessitate a partial reorganization of the whole school system and require an increase in the number of teachers The law provides that classes for deaf mutes shall contain ten pupils, for the blind, twelve pupils, for children with defective hearing, fourteen, and for backward children, eighteen

Dr Van Boorthuijzen gave in the *Nederlandsch Tijdschrift voor Geneeskunde* statistics on the number of backward and abnormal children in Holland and the number of special schools that will be required It is estimated that there are two weakminded children of school age for every thousand inhabitants

## VIENNA

*(From Our Regular Correspondent)*

April 18, 1924

### Outbreak of Food Poisoning Near Vienna

In a monastery near Vienna, where many persons came for free meals, an outbreak of food poisoning occurred a few days ago Six hundred persons had partaken of the regular midday meal, of these, 160 were attacked within the next twenty-four hours with severe symptoms, and three deaths occurred within a few hours after the onset All the affected persons were soon located and treated by a staff of physicians and the pathologist of one of the leading Vienna hospitals They succeeded in tracing the infections to a cook, who had returned from the hospital three weeks before, where he had been treated for typhoid Apart from that cause, the pathologist was able to point out that sausages used in that day's menu were not unimpeachable, so that most likely a double source of illness was present Stringent precautions were taken to prevent the spread of infection, so that the outbreak remained confined to the first 160 persons affected

### Statue of Professor Zuckerkandl

In memory of Emil Zuckerkandl, the anatomist, who for years was a leading member of the Vienna medical faculty, a statue was recently unveiled in the hall of the university It represents the scientist in the act of explaining to his audience the function of a human joint, one of his favorite researches Modern rhinology owes a great debt to Zuckerkandl, whose painstaking investigations into the anatomy of the accessory nasal sinuses form the basis for the development of nasal surgery He bequeathed his beautiful specimens to the Vienna University, where they are known as the Zuckerkandl collection

### Combating Tuberculosis Among Vienna Children

Nearly 40 per cent of the school children in this city show a positive Pirquet sign for tuberculosis, but only 4 per cent are really tuberculous The remainder are in danger of developing open tuberculosis under unfavorable conditions Measurements, conducted in the course of a routine examination of all children listed for the free meal in schools given by the Help the Children Fund, show that the children after their tenth year have reached the average height, but are below the average weight, and are anemic and nervous In the welfare center, 560 orphan children are under supervision both of whose parents have succumbed to tuberculosis To bring about an improvement of conditions, Professor Moll negotiated with the authorities of this country and of Italy with the result that the Italian government has placed 4 000 beds at the disposal of the Austrian Society for Tuberculous Children These beds are in first class institutions on the former seacoast of Austria, now owned by Italy The cost will be so low that even our reduced means will suffice to cover them The latter point is most important Heretofore such children, 4,163 in 1923, were sent to places on the seacoast of Germany, but under present conditions, this is too expensive In the Italian resorts, noted for their sunshine, the expense of each child will be about 40 cents daily About 80,000 liras has been raised by the Krankenkassen, enough to enable 4,000 children to stay at the seaside for two months The parents have to contribute a small part of the expense For children not connected with the Krankenkassen, the government will bear part of the expense This plan is prophylactic it does not include the tuberculous child, but those in danger of developing tuberculosis, i e, predisposed by habit, environment, undernourishment or disposition, and not under 6 years of age A home for predisposed children from 2 to 6 years of age is also contemplated Infants and school children are already cared for, but not these youngsters Professor Moll is endeavoring to arrange for 100 such children near Vienna, and, if possible, on the seacoast too It is intended to have the whole plan in working order this summer

### Private Patients and Hospital Fees

The controversy that arose from Professor Hochenegg's attack on the ethics of the general practitioner is still raging, and the end is not in sight But already several complaints and reproaches could be proved to be absolutely unfounded One complaint was that practitioners who directed their private patients to "paying beds" in hospital wards received a commission for so doing The general medical council now makes public the agreement between the state board of health, which controls these beds in general hospitals, and the medical council, which was signed years ago The chief idea was to prevent the practitioner from losing his patient by "drifting" As many physicians cannot take their patients to their own wards, not having any, and as many patients cannot afford a private hospital room but are not poor enough to obtain free hospital service, a number of "paying beds" were arranged for in all hospitals, where the head of the ward may treat the patient in cooperation with the house physician The fees are reduced in comparison with private fees, and the hospital charges an appropriate reduced fee for the practitioner This is no commission, but a regular fee, charged according to services rendered, and specified as follows call at the patient's bed, assisting at an operation, consultation with the head of the ward, and services at the admittance or dismissal of the patient The patient knows how much his house physician receives, and there is a clear understanding from the beginning This system works to the satisfaction of both parties, and letters in the daily papers by private persons show that the public understands it and does not feel wronged by it The original suggestion, that the head of the ward should receive the fees of the house physician and then pay him, was not accepted by the medical council, which purposely emphasized the publicity of all financial transactions arising out of the cooperation of these parties Since this method has been satisfactory, negotiations are going on now to arrange a similar system in all other hospitals It is intended to devote from 6 to 10 per cent of the total number of beds to this purpose

### The Prize of the Austrian Cancer Society

The Austrian Anti-Cancer Society has awarded its 1923 prize to Dr Lipschutz for research into the origin of experimental tar cancer of the mouse, and to Dr Nather of the surgical clinic in Vienna for research into the pathology and therapy of carcinomatous diseases Both these men have been working on cancer for many years As the prize is open only to Austrians, there were few competitors, but this does not reflect on the quality of the work of the two prize winners

### Roentgenograms of the Vermiform Appendix

At a recent meeting of the Vienna Medical Society, Dr Rappaport showed a series of roentgen-ray plates and photographs in which the radiographic meal had entered the appendix He has observed this condition for a long time Other authors have noted the occurrence, but believed it was only accidental Dr Rappaport, however, thinks that this condition is always pathologic, although the absence of the filling of the appendix does not prove it is normal In some cases, the opaque substance remained for twenty-four hours or more in the appendix, and some of these patients have been operated on In all of them the mucous membrane was in a catarrhal condition, the muscular coats were thickened,

and the entire wall of the appendix was much thicker and harder than normal The author thinks that these changes are responsible for the filling of the appendix Nonfilling, however, may be due to a stricture or total absence of the lumen, and rapid disappearance of the filling may be normal, as opposed to a filling which remains from twenty-four to thirty hours In the latter case, removal of the appendix is justified It may be the only symptom of a disease before clinical signs of mischief become manifest In all cases of diminished mobility of the abdominal contents, this sign should be looked for

### Acceptance by German Scientists of Appointments in Austrian Universities

The ministry of education has succeeded in securing scientists from Germany to accept three important appointments in Austrian seats of learning Professor Reche from Hamburg takes over the chair of anthropology at the Vienna University, which has been vacant since the death of Professor Pock two years ago Dr Muller, professor of anatomy at the University of Tubingen, has accepted the chair of anatomy at Graz, which had been vacant for many years The increase of medical students in that city is the result of the unsatisfactory conditions for the first-year students in Vienna because of the lack of dissecting material, which necessitated reopening the second anatomic institute in Graz A third acquisition, which, however, has only a secondary bearing on medicine, is that of Professor Wegener, heretofore director of the naval institute in Hamburg, who has been appointed professor of meteorology in Graz These appointments show that conditions prevailing with us have something advantageous to induce such men to leave Germany and teach in Austrian universities

### Tendency for the Number of Small Families to Increase

A study of the census taken since 1900 shows that there is a constant and marked tendency for families to become smaller The average number of inhabitants in a Vienna flat in 1910 was 4 51 In the next three censuses, it dropped to 4 23, 3 55 and 3 39 This condition in all towns and larger communities is about the same In the rural districts, the average number of inhabitants per household was from 6 70 to 7 10, but the figures now show also a distinct tendency to diminish, and in 1923 the average number was 4 65 In 1900, the households consisting of only one person amounted to 5 12 per hundred, ten years later they were 6 23 per hundred The number of persons housed in old age asylums, monasteries and invalid houses has also increased Out of 100 married masculine "chiefs of the household" in Vienna, 27 43 had no children, in Graz, 35 71 Of the widowers or divorced masculine "chiefs of the household," 43 per cent in Vienna and 55 44 per cent in Graz had no children Fully 20 per cent of the total Vienna households comprise only three persons, nearly as many households comprise four persons or only two, less than 40 per cent of the households have more than two children or other persons, servants and tenants included If we deduct all these, we find that more than 30 per cent of all families in 1910 had no children, 25 per cent had one child, and about 20 per cent two children, only 23 per cent of the total had more than one child Similar conditions exist in other towns, Graz again being worst with 42 per cent of the families without children Considering occupation, we find that 40 per cent of the members of free vocations (public services, state services, artists, teachers, physicians, lawyers) were childless, 26 per cent had one child, 18 per cent, two children, and only 16 per cent had more than two children The census for 1923, which comprises the results of the five war years, would no doubt show a marked advance in all these tendencies to diminish the size of the family But lack of funds stopped further statistical work of this kind Therefore it is at present impossible to say whether the increase of the urban population is due to the better fertility of the rural immigrants of the towns, or to a gradual diminution of the mortality rate

## BERLIN

*(From Our Regular Correspondent)*

April 26, 1924

### Lecture on Hereditary Transmission

At the last meeting of the Berlin Society of Eugenics, Prof Erwin Baur, director of the institute of research on heredity, gave a lecture on the relation of the natural sciences to the theory of hereditary transmission Everybody knows that heredity is a fact, but the greatest ignorance prevails concerning the mode of hereditary transmission Why are there marked differences between children of the same parents? There are many causes, but they can be grouped under three heads One group is entirely independent of heredity For example, sickness of the mother during pregnancy, or of the offspring in infancy or childhood may determine special peculiarities in children, even though the brothers and sisters may be remarkably alike otherwise But these so-called acquired characters are never transmitted through heredity A person of moderate gifts may be educated to be very efficient, but he will never transmit other than moderate gifts to his offspring The attempts to elevate the negroes of the United States by giving them the same educational advantages the white population receives have necessarily failed Of the second group of causes we know a number of facts that have the force of law Professor Baur illustrated the mendelian law by the mating of a black and a blue rabbit Black is more dominant than blue, and is therefore found three times as often in the later progeny than is the blue From the union of a pure-blooded type of brown-eyed man with a blue-eyed woman, also a pure-blooded type, only brown-eyed children may be expected in the first generation If the offspring should propagate only among themselves, there would be later, as with the rabbits, three times as many descendants of the more dominant type with brown eyes as with blue eyes But there are a great many dominant qualities If the two rabbits differ not only in color but also in length of fur, one having short, the other long fur, then any one of four combinations may result—black with long fur, black with short fur, blue with long fur or blue with short fur If a third characteristic is added—for example, a pied appearance of the fur in one parent, then eight combinations will result This holds true only of pure-blooded, unmixed types

But among the races of mankind there are few unmixed types—the Germans are a mixture of two or more races When the laws of heredity seem to break down, we speak then of mutation, and an individual shows qualities that were not present in the forebears but which nevertheless are transmitted Many such qualities arise, owing to disturbed development Among persons living at present there is scarcely one who does not have some sign of degeneration, for example, myopia The more races that enter into the complex of a people, the greater the possibility of differentiantions among succeeding generations This can be illustrated by a man who has a black and a white necktie, a white and a colored shirt, a black and a white coat, likewise a black and a white vest, and black and also white trousers, socks, shoes and gloves If he decides to change every day the combination of articles he puts on, it will take nearly a half year to exhaust the possible combinations This explains the many differences between brothers and sisters, even

though the main type always obtrudes A third factor is selection A mixed race propagates in a rather uniform manner, if the same conditions for propagation persist undisturbed But conditions have changed very much In the glacial epoch, human beings lived in damp, gloomy caves, and the weaklings perished at an early age, frequently before they had offspring The awkward, backward men commonly perished in battle Only the most able grew to maturity and left descendants Today, however, the constitutionally inferior have abundant opportunity to propagate, for those who perished among primitive peoples are now preserved A woman who bore children with difficulty in olden times was likely to perish, and if a mother could not nurse her infant, the child died The weaker children were thus eliminated in a natural manner, whereas now this process of natural selection has almost ceased This leads to a gradual falling off in robustness And now we face the dangers of birth control People with the best mental and physical qualities in Germany have the fewest children That effects a most unfavorable selection, which may soon bring about degeneration in any people An American inquired into the history of the progeny of a feebleminded woman vagabond He found that she had 2,820 descendants, most of whom were murderers and criminals, and that more than half of the females were prostitutes At the time the investigation was made, there were 600 descendants in prisons, psychopathic hospitals and other public institutions Race suicide brought about the downfall of Greece and Rome, and Germany is confronted by the same peril It is the duty of every individual in choosing a life partner to consider health of body and mind a prime asset The biologic inheritance is more important than economic possessions, and every one should therefore have at least an elementary knowledge of the laws of inheritance

### The Excess of Births Over Deaths in Saxony

The Saxon Bureau of Statistics has issued a bulletin on the vital statistics of Saxony for 1923, in which it appears that the excess of births over deaths has been further diminished The excess in 1922 was 33,358, and in 1923 it was reduced to 26,707 In the postwar period, up to 1920, there was a substantial increase in the number of marriages and births in Saxony, but there has not been so good a showing since 1920 Since 1919, the mortality rate has fluctuated less than during the period just preceding the war In 1923 there was a considerable slump in the number of marriages, although the number was larger than just preceding the war But the decrease of more than 11,000 marriages as compared with the previous year 1922 leads one to assume that the former high marriage rate will not be reached again soon The decrease in the number of living births is not quite so great (9,528), although the number of living births in 1923 was but little higher than in the years 1915-1918, and almost 30,000 less than in 1914, the last normal year The number of stillborn has decreased considerably Of the living births, 76,515, or 83 02 per cent, were legitimate (as against 83 85 per cent the previous year) The infant mortality on the basis of 100 living births was 12 16 in 1923, or somewhat lower than in 1922 (12 61), and was thus in harmony with ...ate that has prevailed since the war, which is considerably ...er than that before the war As the number of living ...reased about 9,500, and the total number of deaths ...s than in 1922, the net loss in the excess of ...ths, compared with the previous year, was ...cess of births over deaths was only 26,707, ...of that for 1913, and only a little more ...ess noted during the first years of ... the most favorable period known

## Marriages

OGDEN DOREMUS KING, Lieut, M C, U S Navy, Port Au Prince, Haiti, to Miss Catherine Helen Snyder of Altoona, Pa, May 3

BEVERLY DOUGLAS, Nashville, Tenn, to Miss Josephine Hutton of Columbia, March 10

JAMES H BURROWS, Williamsport, Pa, to Miss Sarah H. Kaye of Emporium, April 23

ARTHUR CHASE AMBLER to Miss Mary Barber, both of Asheville, N C, April 30

EDWARD ALFRED FRANKLIN to Miss Anne Judith Barr, both of Los Angeles, April 10

FRANK E SELOVER to Miss Beatrice H Green, both of Eugene, Ore, recently

DWIGHT M ERNEST, Peoria, Ill, to Miss Eunice Daly of Princeville, recently

BENJAMIN JABLONS to Miss Rose Geraldine Fried, both of New York, May 4

GRACE B MITCHELL to DR IVER OLAF EIDE, both of Chicago, May 13

## Deaths

**Ernest LaPlace** ⊕ Philadelphia, Medical Department of the Tulane University of Louisiana, New Orleans, 1884, University of Paris, France, 1886, Medico-Chirurgical College of Philadelphia, 1894, died suddenly, May 15, of heart disease Dr LaPlace was born in New Orleans, July 9, 1861 He was professor of surgery at the Medico-Chirurgical College of Philadelphia (now the Graduate School of Medicine of the University of Pennsylvania), 1892-1924, and on the staffs of the Medico-Chirurgical, Polyclinic and Misericordia hospitals, the American Hospital for Diseases of the Stomach, Philadelphia, and the State Hospital for Criminal Insane, Farview He was a member of the Philadelphia Pathological Society, the Philadelphia Academy of Natural Sciences, the French Society of Anatomy and at the time of his death was president of the Medical Club of Philadelphia Dr LaPlace was an officier d'academie (Palmes Academiques) and a member of the Legion of Honor of France He was inventor of one of the first forceps for intestinal anastomosis, and the author of many articles on surgery of the brain and intestines

**William St Clair Gordon** ⊕ Richmond, Va, Medical College of Virginia, Richmond, 1879, a founder and formerly professor of physiology and clinical medicine at the University College of Medicine, Richmond, emeritus professor of medicine at his alma mater, at one time physician to the Laurel (Va) Reformatory, and the City Prison, Richmond, author of "Recollections of the Old Quarters", aged 66, died, April 23, of pernicious anemia

**William Page Harlow** ⊕ Boulder, Colo, University of Michigan Medical School, Ann Arbor, 1899, president 1911 of the Association of American Medical Colleges, formerly professor of medical diagnosis, and dean emeritus at the University of Colorado School of Medicine, since 1916, served in the M C, U S Army, during the World War, aged 56, died, May 11

**Robert Edward Soule** ⊕ Newark, N J, Long Island College Hospital, Brooklyn, 1899, member of the American Orthopedic Association, assistant professor of orthopedic surgery at the New York Post-Graduate Medical School, served in the M C, U S Army, during the World War, aged 51, died, April 30, of pneumonia

**William Sidney Boardman** ⊕ Boston, Medical School of Harvard University, Boston, 1886, member of the New England Otological and Laryngological Society, formerly instructor in laryngology at Tufts College Medical School, member of the board of health and board of education, aged 65, died, May 6, following an appendectomy

**Dunnleigh Corey** ⊕ Lieut, M C, U S Navy, Washington, D C, University of California Medical School, San Fran

cisco, 1916, served during the World War, instructor in clinical chemistry at the U S Naval Medical School, aged 34, died, April 28, at the U S Naval Hospital

**Joseph Marshall Husted**, Woodstown, N J, Baltimore (Md) Medical College, 1897, member of the Medical Society of New Jersey, member of the board of health, on the staff of the Salem County Memorial Hospital, Salem, aged 49, died suddenly, April 29, of cerebral hemorrhage

**Katherine M Cook**, New Wilmington, Pa, Western Pennsylvania Medical College, Pittsburgh, 1907, member of the Medical Society of the State of Pennsylvania, served with the American Red Cross, in Europe, during the World War, aged 42, died, May 1, following an operation

**Grace Wintersteen**, Harrisburg, Pa, Woman's Medical College of Pennsylvania, Philadelphia, 1893, member of the Medical Society of the State of Pennsylvania, on the staff of the Harrisburg State Hospital, aged 59, died, April 3

**Robert Moses Littell, Jr**, Opelousas, La, Tulane University of Louisiana School of Medicine, New Orleans, 1921, formerly on the staff of the U S Marine Hospital, No 14, New Orleans, aged 26, died, May 12, of tuberculosis

**Hugh Benjamin Mahood**, North Emporia, Va, Medical College of Virginia, Richmond, 1899, member of the Medical Society of Virginia, served in the M C, U S Army, during the World War, aged 53, died suddenly, April 24

**George Francis Dodge**, Athol, Mass, Baltimore (Md) Medical College, 1906, member of the Massachusetts Medical Society, aged 52 died, April 28, at the Johns Hopkins Hospital, Baltimore, following a tonsillectomy

**Jasper Wayne Hensley**, Okmulgee, Okla, Memphis (Tenn) Hospital Medical College, 1896, formerly member of the state board of medical examiners and president of the First National Bank, aged 57, died, April 30

**William H Smith**, Heidenheimer, Texas, University of Nashville (Tenn) Medical Department, 1896, member of the State Medical Association of Texas, aged 68, died suddenly, March 18, of cerebral hemorrhage

**Edward M Curry**, Hastings, Colo, Marion-Sims College of Medicine St Louis, 1899, member of the Colorado State Medical Society, aged 57, died, May 2, at a hospital, in Trinidad, of appendicitis

**Gilbert Lee Coffman**, Independence, Kan, Marion-Sims College of Medicine, St Louis, 1896, member of the Kansas Medical Society, aged 55, died, April 27, following an operation on the gallbladder

**Harry Leroy Leap**, San Antonio, Texas, University of Texas Department of Medicine, Galveston, 1910, member of the State Medical Association of Texas, aged 48, died, April 26, of heart disease

**Charles M Lane**, Brick Mill, Tenn, Tennessee Medical College, Knoxville, 1901, member of the Tennessee State Medical Association, aged 50, died suddenly, April 19, of heart disease

**Max Abramson**, Brooklyn, Eclectic Medical College of the City of New York, 1892, member of the Medical Society of the State of New York, aged 61, died, May 11, following an operation

**Thomas J Ward**, Ruxton, Md, University of Maryland School of Medicine, 1877, Confederate veteran, aged 79, died, April 26, at the University Hospital, Baltimore, of senility

**Eleanor Haines**, Newark, N J, Woman's Medical College of Pennsylvania, Philadelphia, 1871, member of the Medical Society of New Jersey, aged 78, died, April 23, of senility

**Luther Franklin Ferguson** ⊕ Gates, Tenn, Memphis Hospital Medical College, 1908, aged 55, died, May 2, at a hospital in Dyersburg, following an operation for peritonitis

**George Dennis Paschal**, Hurtsboro, Ala, Medical Department of the University of the City of New York 1871, aged 77, died, April 22, at a hospital in Tuscaloosa, of senility

**Leonard Safford**, East Durham, N Y, Medical Department of the University of the City of New York, 1883, aged 71, died, April 10, at Kenwood, of cerebral hemorrhage

**Gustav Grant Fisch** ⊕ New York, Medical Department of Columbia College, New York, 1892 on the staff of the Lenox Hill Hospital, aged 55, died, April 27, of heart disease

**Harry J Cranmer**, Edinburg Ohio, Cleveland University of Medicine and Surgery, 1893 member of the Ohio State Medical Association, aged 58, died April 26, of uremia

**John Bunyan LeGwin**, Wilmington, N C, Tulane University of Louisiana School of Medicine, New Orleans, 1911, aged 39, died February 3, of uremia

**John Birch Douglass**, Talbotton, Ga, Atlanta Medical College, 1893 member of the Medical Association of Georgia, state senator, aged 64, died, April 27

**John Allen Lightfoot** ⊕ Texarkana, Ark, Medical Department of the Tulane University of Louisiana, New Orleans, 1892, aged 62, died, May 7, of cerebral hemorrhage

**Peter Brockington Bacot**, Florence, S C, Medical College of the State of South Carolina, Charleston, 1861, Confederate veteran, aged 86, died, April 25, of senility

**Elphas Lawrence Linder**, Tennessee Colony, Texas, Medical College of the State of South Carolina, Charleston, 1883, aged 65, was found dead in bed, April 22

**George William Carter**, Boulder, Colo, University of Michigan Medical School, Ann Arbor, 1853, Civil War veteran, aged 97, died, April 22 of senility

**Andrew K Kline**, Bordentown, N J, New York Homeopathic Medical College and Hospital, 1888, aged 64, died, March 16, of chronic myocarditis

**Rollin Andrew Goudy**, Newcomerstown, Ohio, Jefferson Medical College of Philadelphia, 1888, aged 60, died suddenly, April 23, of heart disease

**Henry Sabin Leake**, Williamstown, Mass, Medical Department of Columbia College New York, 1891, aged 58, died recently, at Territet, Switzerland

**George Jesse Ellis** ⊕ Covington Ky, Medical College of Ohio, Cincinnati, 1896, aged 48, died, April 28, at St Elizabeth's Hospital, of septicemia

**John Edgar Humphreys**, Conkling, Tenn, University Medical College of Kansas City, Mo, 1898, aged 56, died, April 21, of cerebral hemorrhage

**Joseph Patrick Sheehy** ⊕ Sioux City, Iowa, Creighton Medical College, Omaha, 1915, aged 32, was killed, May 14, in an automobile accident

**C I Shoop**, Racine, Wis, Hahnemann Medical College and Hospital, Chicago, 1883, aged 73, died, May 12, at Hollywood, Calif, of senility

**Charles Lewis Gotham** ⊕ St Paul, Rush Medical College, Chicago, 1911, on the staff of the St Paul Hospital, aged 58, died, April 28

**Thomas Addison Berwick**, Princeton, Wis, Medical College of Indiana, Indianapolis, 1889, aged 56, died, May 2, of chronic nephritis

**Frank Dallas Mankin**, Kewanee, Ill, Eclectic Medical Institute, Cincinnati, 1893, aged 56, died, May 8, following a long illness

**Allen J Reeves**, Terre Haute, Ind, Physio-Medical College of Indiana, Indianapolis, 1875, aged 77, died, April 28, of carcinoma

**Lot H Hughes**, Dennison, Ohio, College of Physicians and Surgeons, Baltimore, 1882, aged 72, died, April 25, of cerebral hemorrhage

**Mary D Frederick**, Des Moines, Iowa, College of Physicians and Surgeons, Keokuk, 1884, aged 82, died, April 22, of senility

**Harrison I Shull**, Auburn, Neb, American Medical College, St Louis, 1883, aged 86, died, March 24, at Barneston, of senility

**Samuel H Windham**, Tahoka, Texas, Atlanta (Ga) College of Physicians and Surgeons, 1901, was shot and killed, April 21

**Frank J Prunty** ⊕ Geneva, Ohio, Starling Medical College, Columbus, 1898, aged 52, died in April, following a long illness

**William H Harrison**, Cottondale, Fla, Kentucky School of Medicine, Louisville, 1889, aged 65, died, April 22

**Samuel E Munsey**, New Mount Pleasant, Ind (licensed, Indiana, 1897), aged 80, died, April 29, of senility

**Walter John Brown** ⊕ Danville, Ill, Rush Medical College, Chicago, 1891, aged 56, died, May 8, of septicemia

**J C Jamison**, Gillham, Ark, Memphis (Tenn) Hospital Medical College, 1894, aged 64, died, April 22

**Jin Fuey Moy**, Pittsburgh, Jefferson Medical College of Philadelphia, 1890, aged 62, died, May 4

**John Nolan**, Brooklyn, Bellevue Hospital Medical College, New York, 1883, aged 68, died, May 7

the introduction of quinin in Hainan, and the reasonable expectation that malarial infection may be reduced, as it already has been reduced in a remarkable way in certain villages, it will be interesting to note whether general paralysis and tabes dorsalis will begin to make their appearance

NATHANIEL BERCOVITZ, M D, Kachek, Hainan, China

## SHEET MICA IN BRAIN SURGERY

*To the Editor* —Referring to the article on "Repair of Dural and Brain Defects" by Drs Halstead and Caylor (THE JOURNAL, April 26), permit me to call attention to the value of sheet mica (stove isinglass) for this purpose I once published an article on the subject pointing out the superiority of this (mineral glass) to others as a covering for exposed and damaged brain tissue

Sheet mica can be obtained at any hardware store or, in emergency, removed from the glass windows of heating stoves It can be split to any amount of thickness from a solid block to that of the thinnest tissue paper It is smoother than glass, absolutely nonirritant, indestructible, nonadherent to the tissues a window for observation of the part on which it is applied, is elastic and difficult to break, and can be cut with scissors into whatever size or shape required Not least of its virtues, it may be sterilized instantaneously by the highest degree of flame heat without injury The lightness of this substance precludes its slipping out of place after insertion, as so often is the case with metal plates Stitched overlapping of its circumference secures any extent of convexity when desired

I have given mica considerable clinical trial—one patient has carried such a plate (3 by 4 cm in diameter) in the parietal region for some eight years without the slightest irritation being evidenced I have found it very satisfactory not only in cranial surgery but also, as previously pointed out, as a protective covering applied in small, shingle-like layers over skin grafts, which can be seen and studied beneath it

EVAN O'NEILL KANE, M D, Kane, Pa

## "IMMUNOLOGIC OBSERVATIONS IN AUTUMNAL HAY-FEVER"

*To the Editor* —In his paper on immunologic observations in autumnal hay-fever (THE JOURNAL, May 3), Dr Harry S Bernton discusses the Scheppegrell four-group classification of hay-fever pollens as published in the *Boston Medical and Surgical Journal,* July 12, 1917 This, however, has since been revised, the new classification of three major and five minor groups having been published in the *New York Medical Journal and Record,* June 20, 1923

In this report, the following statement is made "While the grouping of hay-fever pollens from a biologic"—and botanic, the ragweeds and artemisias, for instance, both belong to the *Compositae* family, but are divided into separate groups—"viewpoint has proved of great advantage in simplifying the diagnostic tests and treatment of hay-fever, our experience has demonstrated that the most common member in the patient's vicinity, of the group to which he reacts, should be selected for his immunization"

Regarding the ragweed group, we have already called attention to the occasional necessity of specific immunization against more than one member of the group (Elements of Success in the Treatment of Hay-Fever, *New York M J* **116** 196 [Aug 16] 1922), as follows "In the Southern states, a common complicating cause of fall hay-fever is the marsh elder, *Iva ciliata,* which grows in moist soil from Illinois to Nebraska and south to Louisiana and New Mexico This pollen belongs to the ragweed group, but gives a much higher reaction, so that frequently a special course of immunization must be carried out"

Regarding the prevalence of hay-fever weeds, field observations do not always form a reliable index of pollen infestation In New Orleans, for instance, the giant ragweed forms 95 per cent of the ragweeds in the city, but the atmospheric pollen plates demonstrate that 75 per cent of the fall pollen is from the short ragweed, and is brought in from the surrounding country

In 1921, we treated a series of 137 cases of fall hay-fever, responding to the ragweed group, with the pollen extract of the giant ragweed, most of these cases being in our hay-fever and asthma clinic at the Charity Hospital The results recorded did not differ materially from those of the routine method in which the short ragweed pollen extract was used

Regarding hybridization and morphologic similarity, there are more than 200 varieties of grasses in the Southern states, few of which will hybridize With few exceptions, however, all the pollens of those that we have tested give a similar skin reaction differing only in degree, and we have already used seventeen of these individually to immunize successfully against all the pollens of this group.

The clinical observations stated in Dr Bernton's report, however, are instructive and add materially to our information on the immunizing study of hay-fever

WILLIAM SCHEPPEGRELL, M D, New Orleans

## "MOVEMENT OF THE DIAPHRAGM WITH PATIENT IN LATERAL POSTURE"

*To the Editor* —Dr Gerald B Webb has called attention to an article published by Adams and Pillsbury in 1922 (Adams, R D, and Pillsbury, H C Position and Activities of the Diaphragm as Affected by Change of Posture, *Arch Int Med* **29** 245 [Feb] 1922) This described the physical signs dependent on such changes, which were the subject of my article in THE JOURNAL, April 19 This article was unfortunately overlooked by me, just as Adams and Pillsbury overlooked the original description of the position and activities of the diaphragm in the lateral posture by Hoffbauer and Holzknecht (Die Veränderungen des Standes und die Exkursionbreite des Zwerchfelles in den verschiedenen Korperlagen, *Mitt a d Lab f radio Diag u Therap,* 1907) The whole subject is also reviewed in two recent papers, which were not published at the time my paper was written (Webb, G B, and Sevier, J A The Diaphragmatic Excursion and Mediastinum in the Lateral Recumbent Posture, *Am Rev Tuberc,* March, 1924, The Diaphragmatic Excursion and Mediastinum in the Lateral Recumbent Posture, *Tr A Am Phys,* 1923) These papers should be consulted by any one who is interested in the subject In the latter papers, observations are recorded showing that the asymmetry in physical signs over the back with the patient in the lateral posture tend to disappear in the course of about an hour All four papers agree that the breath sounds are louder on the lower side over the back, at first, the point to be emphasized from the diagnostic standpoint

TASKER HOWARD, M D, Brooklyn

## EGG ALBUMIN AS CULTURE MEDIUM

*To the Editor* —In THE JOURNAL, April 19, p 1285, appeared a communication by Dr W W Goodrich reporting the use of egg albumin as a culture medium for the diphtheria bacillus In this communication, Dr Goodrich stated that none of the laboratory men to whom he mentioned the medium had ever heard of its use This comment was followed by a note of the editor that egg albumin was recommended for growing the tubercle bacillus and the leprosy bacillus

I wish to add that egg albumin has been employed by the Russian Professor Aristovsky for the purpose of cultivating *Spirochaeta obermeieri*, the causative agent of relapsing fever Aristovsky's technic is as follows The egg is boiled in water in the usual way until it becomes hard The albumin is separated from the yolk and cut with a knife into pieces, the volume of which is from 1 to 2 c c, and placed in test tubes The albumin of one chicken egg is sufficient for twelve or fifteen test tubes Eight cubic centimeters of physiologic sodium chlorid solution is added to each tube, after which sterilization is effected by autoclaving at 120 C for a period of fifteen minutes Four cubic centimeters of unheated horse serum is added to each tube, and the medium is then ready for use

Aristovsky obtained very good cultures of *Spirochaeta obermeieri* by the use of this medium One or two drops of the blood of patients with relapsing fever placed on the medium and kept at a temperature of about 35 C always gives in a few days a rich culture, from thirty to forty spirochetes, sometimes even more, are found under the microscopic field The further subcultivation of the spirochetes obtained from human blood is very easy From the first culture, Aristovsky obtained during a period of three months twenty-three generations

Aristovsky's method is a modification and a perfecting of that of Noguchi and Hata The blood spirochetes do not develop in absolute absence of oxygen However, they are in a certain measure anaerobic, demanding for their growth the addition of a piece of fresh tissue Noguchi called them aerotropic anaerobes The medium that he used of ascitic fluid and pieces of fresh sterile tissue is not satisfactory, and he himself says that only one sample of ascitic fluid out of ten is suitable for the purpose

Hata has successfully prepared cultures of the African spirochetes by using slightly coagulated horse serum with the addition of a piece of fresh tissue, or of a blood clot from horse serum This medium is considerably more convenient, even for a small bacteriologic laboratory, than that proposed by Noguchi

The fact that the spirochetes are easily destroyed at thermostat temperature and conserved at low temperatures can be explained by the presence in human serum of a certain harmful substance that is more active at high temperatures than at low ones It is very important, therefore, to remove this harmful substance On the other hand, it is well known that certain cytolytic processes are inhibited by heterogeneous serum, particularly by horse serum Aristovsky found that the spirochetes of relapsing fever grew and multiplied when the mixture contained not more than 20 per cent of human serum and 50 per cent of horse serum He later found that human serum is not at all necessary Aristovsky never was able to get a rich culture by using Noguchi and Hata's method

Noguchi asserts that fresh sterile tissue is of great importance, if not of necessity, for the nourishing medium for spirochestes However, if the fresh tissue is necessary only for anaerobiasis, this can be obtained also by other means It is probable that the fresh tissue exerts other influences on the medium These complicated influences are still unknown It is necessary to bear in mind the pure chemical and physicochemical processes created by the tissue and whose role is not clear, as it is not clear where the beneficial effects end and the harmful action begins on the spirochetes Hence it is important to simplify these processes by removing some of these unknown factors By substituting fresh tissue and fresh blood clots by the use of albumin of chicken egg, which from a chemical standpoint is a more indifferent body, Aristovsky gets his new method

JONAS R KAGAN, M D, Boston

# *Queries and Minor Notes*

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer s name and address but these will be omitted, on request

## POSSIBLE INFECTION FROM ANESTHETIC APPARATUS

*To the Editor* —Please inform me whether there is any danger of spreading respiratory infections such as influenza, pneumonia, tuberculosis bronchitis and tonsillitis by the use of a nitrous oxid oxygen machine, such as is used by dentists Should not the mouth and nose pieces, as well as the rebreathing bag and tubes, be sterilized after each gas administration? What is the best method of sterilizing these appliances? H W, M D, Chicago

ANSWER —Investigations thus far have not conclusively shown that infections have been carried from one patient to another, however, in justice to patients and for the sake of cleanliness, the inhalers and breathing tubes should be thoroughly cleansed after every administration Undoubtedly, the danger of carrying infection is greater from a suction apparatus than from a gas machine attachment

When no pulmonary infection is present, the mask should be washed with soap and cold water, after which the mask and tube (machine end) can be held over the hot water faucet and the hot water allowed to flow through them for several minutes If a respiratory infection is present, in addition to the washing the mask and breathing tube should be placed in alcohol (65 per cent) or in a weak solution of mercuric cyanid, the latter is preferable to mercuric chlorid because it does not attack the metal as much The suction attachments should be washed by drawing cold water through them till all blood and mucus are removed, after which they may be boiled The cleansing should be done immediately following the operation, before the blood dries and obstructs the lumen of the tube There need be no hesitancy in using hot water, as it prolongs the life of the rubber tubing

## SIGNIFICANCE OF ALBUMINURIA

*To the Editor* —What significance can be attached to finding albumin (2 +) in the urine of a man, aged 26 apparently normal, except for a nontoxic unilateral goiter so far as can be determined at present? Microscopic examinations show a few leukocytes, occasional red blood cells occasional cylindroids, mucus, and a few uric acid crystals, the specific gravity is 1 018, and the urine is about normal in quantity and color F S DUNHAM M D Omaha

ANSWER —It is a rather difficult matter to state the exact significance of a finding of albumin (2 +) in the urine of an apparently healthy man This is not an infrequent finding in insurance examinations and has often led to the rejection of a perfectly safe risk There are so many extrarenal causes for an albuminuria that one should be guarded in his statements Judging from the microscopic finding of occasional red blood cells, it would seem likely that the albumin probably came from the presence of blood, the source of which we cannot judge from the statements submitted However, it would be well in this case to make repeated examinations of the urine, after thorough intestinal elimination has been established, as it is possible that the albumin may be traceable to irritation of the kidney by products absorbed from a constipated bowel Albumin, in itself, does not signify a nephritis, but should, of course, be regarded as an indication of at least a beginning irritation of the kidney Whether or not there is in this case a renal lesion would have to be determined by other factors than the mere presence of albumin in the urine

## REACTION OF SODIUM BICARBONATE AND ACETYLSALICYLIC ACID

*To the Editor* —What is the effect of mixing sodium bicarbonate with acetylsalicylic acid? In other words what is the product formed by mixing the two materials in solution?

FRED H SMITH, Experiment Ga

ANSWER.—In the presence of water acetylsalicylic acid (aspirin) and sodium bicarbonate react to form sodium acetylsalicylate, with liberation of carbon dioxid

The sodium acetylsalicylate would then hydrolize to sodium acetate and sodium salicylate, the amount depending on the length of time the solution stood after making The hydrolysis is comparatively rapid

# Medical Education, Registration and Hospital Service

## COMING EXAMINATIONS

ALABAMA Montgomery, July 8 Chairman, Dr S W Welch, Montgomery
CALIFORNIA San Francisco, July 7 10 Sec, Dr Charles B Pinkham, 908 Forum Bldg, Sacramento
COLORADO Denver, July 1 Sec, Dr David A Strickler, 612 Empire Bldg, Denver
CONNECTICUT Hartford, July 8 9 Sec, Regular Board, Dr Robert L Rowley, 79 Elm St, Hartford
CONNECTICUT New Haven, July 8 Sec, Homeopathic Board Dr Edwin C N Hall, 82 Grand Ave, New Haven, Sec, Eclectic Board, Dr James F Hair, 730 State St, New Haven
DELAWARE Wilmington June 17 Sec, Medical Council, Dr H W Briggs, 1026 Jackson St, Wilmington
DISTRICT OF COLUMBIA Washington July 8 Sec, Dr Edgar P Copeland, Apt 104, Stoneleigh Court, Washington
FLORIDA Ocala, June 16 17 Sec, Dr W M Rowlett, Citizens Bank Building Tampa
GEORGIA Atlanta and Augusta, June 4 6 Sec, Dr C F Nolan, Marietta
ILLINOIS Chicago, June 24 27 Supt of Regis, Mr V C Michels, Springfield
INDIANA Indianapolis, July 8 10 Sec, Dr William T Gott, No 333 State House, Indianapolis
IOWA Iowa City, May 29 31 Sec, Dr Rodney P Fagen, Capitol Building, Des Moines
KANSAS Topeka, June 17 Sec, Dr A S Ross Sabetha
KENTUCKY Louisville June 9 Sec, Dr A T McCormack, 532 W Main Street, Louisville
LOUISIANA New Orleans June 12 14 Sec, Dr Roy B Harrison, 1507 Hibernia Bank Bldg, New Orleans
MARYLAND Baltimore June 17 20 Sec Reg Bd, Dr Henry M Fitzhugh 1211 Cathedral St, Baltimore, Sec, Homeo Bd, Dr E H Wilsey Chesapeake City
MICHIGAN Ann Arbor June 10 12 Detroit, June 16 18 Sec, Dr B D Harison, 707 Stroh Bldg Detroit
MINNESOTA Minneapolis June 3 5 Sec, Dr Thomas McDavitt, 535 Lowry Bldg Minneapolis
MISSISSIPPI Jackson, June 17 18 Sec Dr W S Leathers, Jackson
NATIONAL BOARD OF MEDICAL EXAMINERS Written examinations in Class A Medical Schools Parts I and II June 19 21 Sec, Dr John S Rodman, 1310 Medical Arts Bldg, Philadelphia
NEBRASKA Omaha June 9 11 Supt Dr J D Case, University of Nebraska Medical College Omaha
NEW JERSEY Trenton, June 17 18 Sec Dr Alexander MacMaster State House, Trenton
NORTH CAROLINA Raleigh, June 23 Sec, Dr Kemp P B Bonner Raleigh
NORTH DAKOTA Grand Forks July 1 Sec, Dr G M Williamson, Grand Forks
OHIO Columbus June 3 6 1924 Sec, Dr H M Platter, Hartman Hotel Bldg Columbus
OKLAHOMA Oklahoma City, July 8 9 Sec Dr J M Byrum, Shawnee
OREGON Portland, July 1 3 Sec, Dr Ulling C Coe, Stevens Bldg, Portland
PENNSYLVANIA Philadelphia and Pittsburgh July 8 12 Sec Dr George Becht, Harrisburg
RHODE ISLAND Providence, July 4 5 Sec Dr B U Richards State House, Providence
SOUTH CAROLINA Columbia June 24 Sec, Dr A Earle Boozer 505 Saluda Ave, Columbia
TENNESSEE Memphis June 13 14 Sec, Dr A B De Leach, 434 Madison Ave Bldg, Memphis
TEXAS Austin, June 17 19 Sec, Dr T J Crowe 918 19 Mercantile Bank Building Dallas
VERMONT Burlington June 25 27 Sec, Dr W Scott Nay, Underhill
VIRGINIA Richmond, June 17 20 Sec, Dr J W Preston 720 Anchor Building, Roanoke
WASHINGTON Olympia July 8 Sec, Mr Wm Melville, Olympia
WISCONSIN Milwaukee, June 24 26 Sec, Dr J M Dodd, 220 E Second Street, Ashland,
WYOMING Casper, June 9 11 Sec, Dr J D Shingle, Citizens Bank Bldg, Cheyenne

## ADDITIONAL HOSPITALS APPROVED FOR INTERN TRAINING

The following hospitals have recently been approved by the Council on Medical Education and Hospitals for the training of interns All these hospitals have more than one hundred beds each and furnish a general rotating internship

Loma Linda Sanitarium and Hospital, Loma Linda, Calif
Municipal Hospital, Hartford, Conn
Frances E Willard Hospital Chicago
Toledo Hospital, Toledo, Ohio
Abington Memorial Hospital, Abington, Pa
Tacoma General Hospital, Tacoma, Wash
Queen s Hospital, Honolulu, Hawaii, H I

The total number of hospitals now approved for interns is 668, with a total capacity of 194,108 beds, affording a total of 3,866 internships The complete list of hospitals approved for internships was published in the latest issue of the American Medical Directory, and has been printed as well in separate pamphlets,[1] copies of which have been sent to the offices of all the medical colleges in the United States and Canada

The approved list has heretofore been published in three sections I, General Hospitals, II, Nervous and Mental, and III, Other Special Hospitals Those in Sections II and III have been recommended for physicians who have had general experience or have served a general internship In line with the modern requirements of medical colleges and state boards for a general rotating internship, and also the increasing tendency to regard a general internship as the proper ground work for specialization, the Council plans, after Sept 30 1924, to publish only the list of general hospitals approved for internships Sections II and III will therefore be discontinued as such, and in lieu of them the Council will publish a list of the hospitals that furnish acceptable special internships open only to physicians who have served a general internship

### Minnesota January Examination

Dr Thomas S McDavitt, secretary Minnesota State Board of Medical Examiners, reports the written, oral and practical examination held at Minneapolis, Jan 1-3, 1924 The examination covered 15 subjects and included 80 questions An average of 75 per cent was required to pass Thirty-five candidates were examined, all of whom passed Eight candidates were licensed by reciprocity, and one by endorsement of credentials The following colleges were represented

| College | PASSED | Year Grad | Per Cent |
|---|---|---|---|
| University of Illinois | | (1922) | 90 6 |
| Johns Hopkins University | | (1923) | 84 9 |
| University of Minnesota | (1923 3) 87 3, 91 8, 93 6, (1923, 25)* 86 87 2, 87 2 88 2 88.3, 88 5, 88 8, 89 1 89 4, 89 9, 90 1, 90 2 90 5 90 6 90 7, 90 7, 90 9, 91, 91 3 92 1, 92 2, 92 9, 92 9 93, 94 2 | | |
| Columbia University | | (1921) | 86 5 |
| University of Toronto | | (1919) | 86 5 |
| University of Edinburgh, Scotland | | (1923)† | 94 3 |
| University of Berlin Germany | | (1922)† | 89 5 |
| University of Hamburg, Germany | | (1923)† | 88 7 |

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| Hahnemann Medical College and Hospital of Chicago | | (1911) | Tennessee |
| Indiana Medical College | | (1907) | Indiana |
| University of Louisville | | (1921) | Kentucky |
| Tulane University of Louisiana | | (1905) | Louisiana |
| University of Pittsburgh | | (1921) | Penna |
| University of Texas | | (1921) | Texas |
| Medical College of Virginia | | (1921) | Virginia |
| University of Toronto | | (1905) | N Dakota |

| College | ENDORSEMENT OF CREDENTIALS | Year Grad | Endorsement with |
|---|---|---|---|
| Northwestern University | | (1915) | N B M Ex |

* These candidates have completed their medical course and received their M B degrees, and will receive their M D degrees on completion of a year s internship in a hospital
† Graduation not verified

### North Dakota January Examination

Dr G M Williamson, secretary, North Dakota Board of Medical Examiners, reports the oral, written and practical examination held at Grand Forks, Jan 1-4, 1924 The examination covered 13 subjects and included 100 questions An average of 75 per cent was required to pass Two candidates were examined, both of whom passed Four candidates were licensed by reciprocity The following colleges were represented

| College | PASSED | Year Grad | Per Cent |
|---|---|---|---|
| Rush Medical College | | (1923) | 89 3 |
| Baylor University | | (1922) | 82 1 |

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| Bennett College of Eclectic Medicine and Surgery | | (1891) | Minnesota |
| Rush Medical College | | (1922) | Illinois |
| Kansas Medical College | | (1904) | Kansas |
| Hamline University | | (1901) | S Dakota |

1 Copies may be obtained by writing to the Council on Medical Education and Hospitals and enclosing ten cents

# Book Notices

LIVESTOCK SANITATION A Collection of Short Popular Articles Bearing Upon the Subject By W H Dalrymple M R C V S, Department of Veterinary Hygiene Louisiana State University Leather Price $2 Pp 145, with illustrations Baton Rouge The Gladney Press, 1923

This modest volume, written in clear, terse style, presents a surprisingly large amount of information in a relatively small space The author has been successful in his choice of subject matter pertinent to the care of live stock, omitting in a level manner, on the one hand, many details that could have been included in each chapter, to keep the contents within the prescribed limits and including those salient details, on the other hand, which make the volume valuable to the progressive farmer The first pages on foods, food uses food values and food equivalents, and the chapters on soil and manure, are particularly illuminating The chapter on disinfectants is the least satisfactory part of the book, but it should be said that this chapter is the most difficult one to write for the lay reader The final chapter, Mistreatment of Live Stock, which might well have been designated Common Sense on the Farm, is unique in that it exposes in no uncertain terms many of the farm superstitions relating to animals and animal diseases The volume asks many more questions than it can possibly answer, and undoubtedly will stimulate a desire for supplementary reading Hence a brief list of books and standard magazines devoted to the farm and its problems would have been a valuable addition

GERIATRICS A Treatise on the Prevention and Treatment of Diseases of Old Age and the Care of the Aged By Malford W Thewlis M D With Introductions by A Jacobi M D LL D and I L Nascher M D Second edition Cloth Price $4 50 Pp 401 with 24 illustrations St Louis C V Mosby Company 1924

In this edition there have been several additions to the subject matter, including electrotherapy opotherapy, asthma and influenza While, in general, diseases of the old do not vary considerably in their manifestations from those in the young the author brings out the point rightly that the variations, when they occur, are due to the fact that what is normal in the aged is often pathologic in the young It is necessary to remember that the props are weaker, and hence the resistance of the superstructure is diminished The book has many points to recommend it, in that the reader is forced to conclude that, though a patient is old, he still has good chances of recovery under the proper regimen Here, however, is the dividing line between what the book should be and really is It is written in a rambling, free and easy sort of style, not altogether free from grammatical errors, and poorly arranged as to subject matter Most of the authorities referred to are of a decade or decades ago The methods of treatment are adequate, in the main However, the manufacturers of organ extracts should revel in this book, renal and thyroid extracts for nephritis, myocardial extract for myocardial deficiency, hepatic extracts for liver diseases and diabetes, prostatic extract for prostatic hypertrophy, besides all the better known extracts are recommended It is even stated that thyroid extract has cured cancer, and surgical removal of malignant disease, even early, is looked at askance Tic douloureux, says this book, often yields to elixir of iron quinin and strychnin Brandy is recommended in doses as large as a quart daily in some cases of pneumonia Diathermy and autocondensation are recommended for cardiovascular and renal diseases, in addition to neuritis and rheumatism What might have been a valuable treatise has been made useless by this type of therapeutic material

RONTGENTHERAPIE Oberflachen und Tiefenbestrahlung Von Dr H E Schmidt Sechste auflage herausgegeben von Dr A Hessmann Dirigierendem Arzt der Rontgenabteilung des Krankenhauses am Urban Berlin Paper Price $1 95 Pp 299 with 103 illustrations Berlin August Hirschwald 1923

This is a popular treatise on the use of roentgen rays for superficial and deep therapy The reader is introduced, in a concise chapter, to the modern theory of electricity The essential differences between the gas tubes, the vacuum tubes, the Coolidge tubes and Lilienfeld tubes are discussed and analyzed in their bearings on the demands of therapeutic application A short chapter dealing with the history of roentgen-ray therapy leads up to the discussion of the dangers of the method An interesting item is the essay on the hygiene of the roentgen-ray room The following chapters deal with the general principles on which the superficial and deep roentgen-ray therapy is based, with an appendix dealing with the forensic importance of damages inflicted on the patients by roentgen-ray therapy The closing chapters are devoted to roentgen-ray therapy in gastric and duodenal ulcers, and the possibilities in dental surgery

AN INTRODUCTION TO NEUROLOGY By C Judson Herrick, Professor of Neurology in the University of Chicago Third edition Cloth Price $2 50 net Pp 395 with 139 illustrations Philadelphia W B Saunders Company 1922

The third edition of this admirable little book has been brought thoroughly up to date by the inclusion of essential features that have been established by recent research and the addition of reading references to the most recent works The author has rigidly adhered to the purpose of writing an introduction rather than an exhaustive treatise, and has steered successfully away from the danger of mere enumeration The subdivisions are essentially physiologic and therefore of the greatest practical value to the clinician The subject matter is rendered easily accessible by an excellent index, in which is included a glossary of many technical terms The care that has been exercised in the nomenclature applied to different parts of the nervous system is particularly valuable and will do much to avoid some of the unnecessary complexities of nervous anatomy for the student The book can be most heartily recommended for students and practitioners, and contains much careful consideration of controversial points that will be found extremely useful by the teacher of neurology

DISEASE IN CAPTIVE WILD MAMMALS AND BIRDS INCIDENCE DESCRIPTION COMPARISON By Herbert Fox M D Pathologist to the Zoological Society of Philadelphia With a Foreword by Charles B Penrose M D President of the Zoological Society of Philadelphia Cloth Price $12 Pp 665 with 87 illustrations Philadelphia J B Lippincott Company 1923

The lives of wild animals are an unfailing source of interest to all, their diseases and deaths offer particular interest to physicians Probably in nature, natural death is uncommon, for the weakening of disease soon leads to violent death from attack by enemies or rivals Nevertheless, even in nature, disease occurs, and probably the extinction of species has often resulted from epidemic disease, for example, this seems the most plausible explanation of the sudden disappearance of the passenger pigeon in this country The studies of paleopathology published by Moodie bear witness to the antiquity of disease among even the wild animals of old time The present volume represents the first and only existing systematic study of the course and character of disease in wild animals, and constitutes an important contribution to medical science and we may add, to American scholarship It is based on the studies of the collections maintained by the Philadelphia Zoological Society, carried out for the last twenty years by Dr Herbert Fox and his colleagues, who have not only performed complete postmortem examinations on every bird and animal dying in the collection, but also have conducted numerous investigations on the living animals, including studies on diet, metabolism, bacteriology and parasitology This wealth of material is here analyzed, and presents an enormous collection of data of value alike to the keeper of animals and to the investigator of disease The author, being a physician and a pathologist, has ever in mind the importance of the evidence obtained from his animal subjects on the problems of human disease, which fact adds greatly to the value and interest of the work for medical readers For example he points out that Man is said to be as old as his arteries and his span of life nowadays is in the neighborhood of half a century Parrots exhibit lesions of the vascular system comparable to the arteriocapillary fibrosis of human beings and their expected longevity is about the same or a little greater From a study of our cases of this lesion in parrots it can be said to appear quite early in life and not to lead to organic disease as it

is alleged to do in man" Such observations as this and many others are bound to set one to thinking as to the justification of many of our hypotheses as to human disease For example, arteriosclerosis is common to many zoological orders, but its distribution does not show any clear relation to the habits or food of the orders in which it does or does not appear

In the six thousand necropsies on which this work is based, there have appeared, it would seem, most of the diseases known to man, at least, we find not only the common disorders, such as tuberculosis, pneumonia, nephritis and endocarditis, but also diabetes, cerebral glioma, chorioepithelioma of the uterus, multiple myeloma, Paget's osteitis deformans, osteomalacia, exophthalmic goiter, leontiasis ossium, leukemia and molluscum contagiosum It is interesting to note that neoplasms have been observed in no less than 2 58 per cent of the wild mammals coming to necropsy, despite the fact that a large proportion of the deaths have occurred before the animals have reached the age at which cancer is most frequent

Such a collection of data will serve as a source book of the first importance to all investigators in medical science, for the comparative pathology of disease must always be considered for the light it may throw on conditions observed in another species This book furnishes not only the best available source for this information, but also much valuable normal material in the way of blood counts and organ weights in relation to body weights in different species Although it is a mine of information, the material is so well arranged, and discussed with so good an appreciation of relations and values, that its worth far exceeds that of a mere source book There is included much first hand information concerning the lives and habits of the animals, both when well and when ill, told in so agreeable a style that the medical reader, at least, will find it quite as interesting a narrative as many of the popular writings of the "faunal naturalists"

NOUVEAU TRAITÉ DE MÉDECINE Publie sous la direction de MM G H Roger, Fernand Widal, P J Teissier, Secretaire de la redaction M Garnier Fascicule XIII Appareil digestif (Bouche, Pharynx, Œsophage, Estomac) Boards Price, 50 francs Pp 810, with 123 illustrations Paris Masson et Cie, 1923

This volume of the French system of medicine edited by Roger, Widal and Garnier has all the characteristics of the previous volumes It gives a complete discussion of the subject from the standpoint of underlying pathology, and the etiology, symptoms and signs, in most cases many laboratory details are included It emphasizes the French point of view —detailed clinical description and deduction, and this, while not always convincing, is usually interesting As an illustration of the somewhat exquisite detail of the volume, one notes that seventy-two pages are devoted to description of the pharyngeal angmas Diseases of the mouth and esophagus are thoroughly discussed, gastric ulcer and carcinoma naturally occupy much space and attention But one feels as if one were cut off in the middle of a serial story, not having duodenal ulcer together with the discussion of gastric ulcer The descriptions of various laboratory procedures are clear, and the illustrations are well done The lack of "foreign" references has been previously criticized, but this fact does not detract from the interest and value of this volume as the latest French exposition of the subject

HUMAN PROTOZOOLOGY By Robert W Hegner, Ph D, Professor of Protozoology, and William H Taliaferro, Ph D, Associate Professor of Protozoology in the School of Hygiene and Public Health of The Johns Hopkins University Cloth Price, $4 50 Pp 597, with 197 illustrations New York The Macmillan Company, 1924

This is intended as a textbook for beginners in the study of protozoology, and is based on the course given by the authors in Johns Hopkins University It is attempted to explain the general biology of protozoa and to give typical life histories of representative species of the groups studied, with more detailed accounts of the species living in man It is an authoritative, well written, thorough textbook, well illustrated, and it will be of use not only to students but also to public health officers and physicians The bibliography, the index of authors and the careful index of subjects increase the usefulness of the book

# Miscellany

## THE STATE BOARD QUESTION

W E B, writing editorially in the *Atlantic Medical Journal* for April, is disgusted with the peculiar questions asked in state board examinations In the Delaware examination for 1922 appeared the question, "What is piperazine, and what are its uses?" At that time, he commented

"Whatever it is, our knowing does not stamp us as brilliant medicos, and our not knowing does not mean that we are unfit to practice medicine And as these examinations are held to determine whether applicants are fit to practice medicine, such trick or catch questions have no place on the questionnaire—they are neither fair, nor comprehensvie, nor practical As a matter of fact, in the words of the street urchin, they are nothing but 'durn tommyrot' As to this particular enigma 'piperazine,' if the question was put in all seriousness, we can only say that the examiner is out of tune with the times We would much prefer to believe that the question was put somewhat humorously, just to see how the young bloods would bull through, yet even here we must admit a state board examination is a mighty poor place in which to play jokes We devoutly hope that 'piperazine' and all that it stands for will never appear again in our midst"

In the December, 1923, examination appears the question, "What are the ingredients of roast-beef hash, and state as to its nutritive and keeping values?" To this, W E B proposes the following answer

"The ingredients of roast-beef hash are weird and wonderful Poets have wasted reams of perfectly good paper describing said admixture and its luscious flavor, historians have written eloquently of the descent through the ages of this hoary edible, economists have noted at all times the financial independence of those who indulge quite freely, and scientists have declared over and over again that it compares quite favorably with pea soup in consistency, which is a virtue It is called beef because it generally consists of left over potatoes and water, with a dash of milk, and a sprinkle of salt Its nutritive value varies as much as the price of a German mark, in fact, there are hash foundries on Delaware Avenue where the nutritive value is almost as high as the original potato, while on East Fourth Street can be found similar establishments where the nutritive value has about reached the vanishing point Much might be said as to its keeping values, in fact, it has been known to keep from Tuesday dinner to Sunday breakfast, which is going some In keeping values it is probably unequaled by any other dish'

## THE HEALTH CENTER

The health center movement, says Dr Charles F Wilinsky, director of the Blossom Street Health Unit in Boston, was conceived about twelve years ago by Dr W C White of Pittsburgh A similar plan was soon adopted in Milwaukee, where emphasis was laid on child welfare in a definite area A little later, tuberculosis nurses in Cincinnati took up a definite area, and the New York Milk Committee opened a health center for little children in the Syrian district of that city In September, 1914, the health commissioner of New York created a health center on the lower east side, which was soon followed by another in Queens From these two, there developed a chain of twelve municipal health centers in New York City Buffalo opened five health centers in 1915, Cleveland and Philadelphia developed additional centers, and the Blossom Street center in Boston was created By 1917 there were a dozen health centers in large cities and one notable exception in a small town of about 12,000 people, Norwood, Mass In 1919, the Red Cross took up the development of health centers on a nation-wide scale, and 385 were created It is estimated that there are about 1,000 health centers in the United States today

Alameda County, Calif, Wilinsky says, is the most striking example of the type of health center that is a county demonstration It has fifty-two health and social welfare agencies

housed together Duchess County, New York, is another health center of this type In small cities, health centers are of the centralized type, but in large cities they are decentralized, with a chain of health centers in various sections of the city which are responsible to a central office Philadelphia with ten, Cleveland with seven and St Louis with ten are examples of the decentralized type in large cities There are thirty health centers scattered throughout the smaller cities of New York State, New York City has sixty-four municipal baby welfare stations, which concentrate their work on infant and child hygiene

The fundamental principle in the creation of a modern health center is the correlation of all the health and social agencies, whether public or private under one roof, with the beneficient results derived from the contact of workers It is essential that an earnest effort be made to prove to people in the district that the aim of the center is to help keep them well and to do everything possible to prevent disease The cooperation of the physician in the district, who should be freely consulted as to plans of the health center, and who should take part if possible in the preventive program cannot be emphasized too strongly

The Blossom Street Health Center, maintained by the city of Boston, is housed with and actively cooperates with the health department of Boston, the Consumptives' Hospital Department, the Instructive District Nursing Association, the Milk and Baby Hygiene Association, the visiting physician of the Boston Dispensary, and the Hebrew Federated Charities

This unit, organized in 1915, suspended activities when the United States entered the World War, and turned over its building to the draft board and other agencies Since its reopening in 1921, its services to the community have "tremendously" increased Dr Wilinsky draws attention to the splendid cooperation in this work of the Boston Sanatorium the Forsyth Dental Infirmary, the state department of health the Boston Dispensary, and various charity organizations and health agencies and settlement houses in the district, all of which have played an important part in the development of the Blossom Street unit He says that the request for health information in this community in 1923 increased more than 460 per cent over that of 1921, and that this is outstanding evidence of the desire in a health center area for health instruction

## EFFECTS OF HIGH TEMPERATURE AND HUMIDITY

Man, in a state of rest and in still air, cannot endure indefinitely a temperature higher than 90 F with 100 per cent relative humidity according to the Department of the Interior Investigators at the Pittsburgh experiment station of the Bureau of Mines, cooperating with the American Society of Heating and Ventilating Engineers, noted in the course of experiments that stout men subjected to uncomfortably hot temperature lost more weight than thin men, but as a rule could endure high temperatures longer, and complained less of exhaustion Loss of weight in these men gradually increased with the increase in atmospheric temperature When they drank ice water they immediately gained weight, and usually regained the entire weight lost within twenty-four hours Those who drank ice water freely after exposure to high temperatures felt no ill effects, tending to disprove the assumption that such action develops severe cramps

The exhaustion and weakness that followed subjection to a very high temperature and humidity for a short period was not so severe as subjection to a moderately high temperature and humidity for a longer period These men became very uncomfortable when the pulse rate exceeded 135 a minute, and complained of unbearable and distressing symptoms when the pulse exceeded 160 a minute The highest pulse rate recorded was 184 a minute The respiratory rate was not markedly affected

Physiologic studies have been made by the Bureau of Mines in some mines to learn the effects of various temperatures and humidities, but it is difficult to carry out studies on many controlled temperatures These experiments were conducted in a laboratory in two fully equipped chambers, insulated by cork board, designed to maintain air conditions at a desired temperature and humidity The temperature, humidity and air motion of each room was controlled independently of one another The air conditions were controlled by apparatus outside the chambers, and entirely separated from them Instruments for observing the temperature of the subjects, and for recording the pulse rate and respiration, and apparatus for basal metabolism work were in an adjoining room

An attempt was made to determine the cause of the conjunctivitis of which workers so frequently complain When the eyes were normal a small quantity of sweat was dropped in the eyes The conjunctiva almost immediately became inflamed, and the eyes felt sore Sweat collected from the face seemed less irritable to the eye than that collected from the chest or arms Sweat bands were then applied to the forehead during the experiments, preventing sweat from falling into the eyes and also preventing the conjunctivitis This indicates that sweat is the chief factor in producing the conjunctivitis that accompanies exposure to heat

# *Medicolegal*

### "Such Immediate Surgical Relief as Is Imperative"

*(United States Casualty Co Johnston Drilling Co (Ark) 255 S W R 890)*

The Supreme Court of Arkansas says that the plaintiff brought this action to recover a balance claimed to be due on the premium for a policy of employer's liability insurance issued by the plaintiff to the defendant The defendant answered with a counterclaim for a sum expended by it for medicine and medical treatment furnished to one of its employees after he had sustained an injury whereby he lost an eye What was designated "condition C" of the policy provided among other things, that "the assured shall not voluntarily assume any liability, except that the assured may provide at the time of the accident (and at the cost of the company) such immediate surgical relief as is imperative" but an indorsement on the policy stated that, "in consideration of the reduced premium charged for this policy, it is hereby understood and agreed that this policy shall not cover the cost of immediate surgical relief referred to in condition C, anything in the policy to the contrary notwithstanding" The issue in its final analysis was whether the amount claimed by the defendant as a set-off against the plaintiff's claim, was incurred for "immediate surgical relief," and also whether the amount claimed by the defendant was a liability which it voluntarily assumed

The words 'such immediate surgical relief as is imperative" as used in the contract of insurance obviously contemplate emergency or "first-hand" relief, in other words, such relief as must be given instantly or immediately following the accident to prevent impending death or to assuage or prevent suffering These words have no reference to such surgical and medical treatment hospital charges and compensation for nurses and such other expenses as are incident to, and necessarily incurred in, the usual and ordinary treatment of the victim of the accident some time after the accident occurred and which are continued in order to restore him, if possible to his normal condition, and by so doing to lessen the damages for which the person causing the injury would be liable

The contention of the plaintiff as the court understands it was not that the claim of the defendant was for such immediate surgical relief as was imperative and therefore that the plaintiff was not liable under the rider provision of the policy but its contention was that it was not liable because of such provision for such surgical and medical attention, hospital and nurse expenses as were incident to and necessarily incurred in the ordinary course of the treatment of the employee's injury This contention of the plaintiff could not be sustained, because for such expenses the

defendant was liable to the injured employee as damages which were the direct and proximate result of the injury caused by the defendant Such expenses did not represent a liability voluntarily assumed by the defendant, but they were damages under the law which the defendant was bound to pay Such the court believes to be the plain and unambiguous meaning of the word "voluntarily" in condition C of the contract, and it occurs to the court also that the words "immediate surgical relief as is imperative" cannot be construed to include expenses of the character set up in the defendant's counterclaim, and therefore the elimination of such words by the rider clause of the policy did not relieve the plaintiff of liability for such expenses Even if there were a reasonable doubt about such interpretation being correct, still it would be the court's duty to resolve such doubt in favor of the defendant as against the plaintiff, because the latter wrote the contract It followed that the plaintiff, under its contract of insurance with the defendant, was liable to the latter for the amount in controversy, and a judgment allowing the defendant $739 85 as a set-off is affirmed

### Employment of Physician for Employee of Corporation

*(Willis v MacDougall & Southwick (Wash), 220 Pac R 759)*

The Supreme Court of Washington says that the plaintiff sued the defendant, a corporation, for the reasonable value of certain surgical operations performed by him on one of the defendant's employees The plaintiff's case was to the effect that one Carpenter, president and general manager of the defendant, gave him a direct, original and independent promise to pay for his services The trial judge sustained a challenge to the sufficiency of the evidence, took the case from the jury, and entered a judgment of dismissal, which judgment is here reversed The defendant contended that on the facts the plaintiff failed to sustain the burden of proof, but that was a question for the jury to determine Then the defendant contended that there was no evidence to show authority on the part of Carpenter, that he expressly denied it, and that no such authority could be implied, but that was answered contrary to the contention of the defendant very early in the history of this court It was true that there was no contradiction of the testimony of Carpenter that he had no such authority to employ a physician, except the circumstances that, while he said he had no such authority, the bills of other physicians and the hospital were paid as direct obligations of the company about three years before trial, and that, as Carpenter said, his acts had not been questioned Hence the question as to whether or not his bare denials were sufficient to overcome the presumption under the decisions of this court remained a question of fact for the jury

It is true that the general rule is that, when a person requests the performance of a service, and the request is complied with and the service performed, the law raises an implied promise to pay the reasonable value of the services, and that the general rule is, further, that this implication does not obtain when one person requests a physician to perform services for a patient, unless the relation of the person making the request to the patient is such as raises a legal obligation on his part to call in a physician and pay for the services This is but a statement of the common sense rule which should obtain, for it would be an unjust and senseless rule to require a person, obtaining the services of a physician on a sudden emergency of injury or sickness of another, to be impliedly liable for the services It is also a common sense rule to imply liability on the part of a person having such relation to a patient as raises a legal obligation on his part to call in a physician and pay for the services But this rule had nothing to do with the question of whether this corporation as such, through its general manager and executive officer, could bind itself expressly and independently to pay for the services of a physician or a hospital or any service whatever for its employee The direct promise, if made by the general manager, was not within the statute of frauds The question, therefore, as to whether it was the obligation of the company, was a question of authority and power on the part of Carpenter, the general manager, to bind the company That question was not concluded by the denials of Carpenter as to his authority His authority would not be legally determined either by his own assertions, or denials, thereof

This court realizes that there are many cases holding that the manager of a business corporation has no implied authority to furnish medical aid and assistance to a servant who has been injured outside the line of his duties, or to a servant not injured and no emergency existing for the employment of a physician's services The court is convinced, however, that, under the presumed authority of a general manager under the decisions of this court, it was here a question to be decided by a jury Moreover, this is in line with the undoubted modern tendency for all kinds of corporations, including mercantile, to engage in many lines of activity for the betterment and added contentment of employees, in addition to their strict business activities, all of which are usually managed by the ordinary business manager

It was contended that the judgment for the defendant was right because three separate treatments and attendances on the part of the plaintiff were shown, and no attempt was made to segregate He simply charged $750 for the whole, and the defendant insisted that he saw Carpenter only once The court's answer is that the plaintiff's testimony simply covered the whole treatment, service and engagement, if his testimony was to be believed There was therefore no necessity to segregate for each attendance and treatment It was error to take the case from the jury

### Limited Effect of Order of Board of Insanity

*(Kirk et al v McClendon (Okla), 220 Pac R 949)*

The Supreme Court of Oklahoma holds that in a case in which a board of insanity found a man insane and committed him to a hospital for the insane from which, three months later, he was discharged as recovered, he was, under the statutes of that state, restored to all his political, civil and other rights The proceeding for the restoration of an insane person to capacity, under Section 1452, Compiled Statutes of 1921, is not applicable to the case of one confined in an asylum for the insane without having been put under guardianship There is a distinction between the judicial finding by the county court that a person is insane, for the purpose of appointing a guardian for him, to take charge of his property, and the finding by a board of insanity An order of a board of insanity, adjudging one to be insane, has no bearing on his legal, mental status The effect of such an order is to admit one to the state hospital for treatment The members of the board do not act as judicial officers, but as a special board, clothed with a special power only The fact that the county judge is a member of the board does not affect the matter, as he acts as any other member of the board, and not as a county judge or as a county court

### "Loss of Bodily Function"

*(Vukelich v Industrial Commission of Utah et al (Utah), 220 Pac R 1073)*

The Supreme Court of Utah says that, in addition to injuries by the loss of particular physical members, such as an arm, hand, leg, foot or eye, the workmen's compensation act of that state places in the same class "any other disfigurement, or the loss of bodily function not otherwise provided for" These words are not meaningless The court thinks that they evince a purpose to include such other injuries as are similar to the loss of physical members, in the respect that they are fixed and permanent, and their consequences and degree of disability can be presently ascertained The injury in this case was described as ankylosis of the tenth, eleventh and twelfth dorsal vertebrae, the three vertebrae having been crushed together, and the formation of bone callus having blended them all as one, thus interfering with the motion of the spine Physicians testified as to the amount of the resulting disability The court considers that the evidence was sufficient to support the findings of the industrial commission that the injury was a "loss of bodily function," within the meaning of the statute, and the awarding of compensation on that basis

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION Chicago, June 9 13 Dr Olin West 535 North Dearborn Street Chicago, Secretary

American Association of Genito Urinary Surgeons Stockbridge Mass May 26 28 Dr Henry G Bugbee 40 East 41st St, New York Secy
American Association of Industrial Physicians and Surgeons Chicago June 9 10 Dr A G Cranch, National Carbon Co Cleveland Secy
American Dermatological Association Minneapolis Minn June 5 7 Dr Udo J Wile 211 East Huron Street Ann Arbor Mich, Secretary
American Laryngological Association Swampscott Mass June 2 4 Dr George M Coates 1811 Spruce Street Philadelphia Secretary
American Laryngological, Rhinological and Otological Society St Louis May 29 31 Dr W H Haskin 40 East 41st Street, New York Secy
American Neurological Association Philadelphia, June 5 7 Dr Frederick Tilney 870 Madison Avenue New York, Secretary
American Ophthalmological Society Hot Springs Virginia, May 26 28 Dr T B Holloway, 1819 Chestnut Street Philadelphia Secretary
American Otological Society Swampscott Mass June 3 5 Dr Thomas J Harris 104 E 40th Street New York Secretary
American Pediatric Society, Pittsfield Mass June 5 7 Dr H C Carpenter 1805 Spruce Street Philadelphia Secretary
American Proctologic Society, New York June 23 25 Dr Joseph F Montague 540 Park Avenue New York Secretary
American Psychiatric Association Atlantic City, June 3 6 Dr C Floyd Haviland Drawer 18 Capitol Station Albany, N Y Secretary
American Radium Society Chicago June 9 10 Dr Edwin C Ernst Humboldt Bldg, St Louis Secretary
American Society of Clinical Pathologists Rochester, Minn June 5 7 Dr Ward Burdick, 652 Metropolitan Building Denver, Secretary
American Society of Tropical Medicine Chicago, June 9 10 Dr B H Ranson Bureau of Animal Industry Washington D C Secretary
American Urological Association Atlantic City, June 3 5 Dr Homer G Hamer, 723 Hume Mansur Building Indianapolis Secretary
Associated Anesthetists of the United States and Canada Chicago June 9 10 Dr F H McMechan Avon Lake Ohio Secretary
Connecticut State Medical Society, Hartford May 28 29 Dr C W Comfort, Jr, 27 Elm Street, New Haven Secretary
Maine Medical Association, Portland, June 25 27 Dr B L Bryant 265 Hammond Street Bangor Secretary
Massachusetts Medical Society Boston June 6 7 Dr W L Burrage 182 Walnut St Brookline Secretary
Medical Library Association Chicago June 9 10 Dr John Ruhrah 11 East Chase St Baltimore, Secretary
Medical Women's National Association Chicago June 9 10 Dr J W Fisher Middlesex Hospital Middletown Conn Secretary
New Hampshire Medical Society Manchester June 24 26 Dr D E Sullivan 7 N State Street Concord Secretary
New Jersey Medical Society of Atlantic City, June 5 7 Dr J B Morrison 97 Halsey Street Newark Secretary
New Mexico Medical Society Santa Fe May 27 29 Dr Charles M Yater Roswell Secretary
Pacific Northwest Medical Association Vancouver, B C June 26 28 Dr F Epplen 422 Paulsen Building Spokane Wash Secretary
Radiological Society of North America Chicago, June 6 7 Dr M J Sandborn Appleton Wis, Secretary
Rhode Island Medical Society Providence June 5 Dr I W Leech 369 Broad Street Providence Secretary
Utah State Medical Association Logan, June 19 21 Dr William L Rich Boston Building Salt Lake City Secretary
Wyoming State Medical Society, Cody June 17 19 Dr Earl Whedon Sheridan Secretary

## ASSOCIATION OF AMERICAN PHYSICIANS

*Thirty Ninth Annual Meeting held in Atlantic City N J, May 6 and 7 1924*

DR CHARLES F MARTIN, Montreal, presiding

### Medical Education

DR CHARLES F MARTIN, Montreal In America the tendency in medical education is to become too specialized, and the British schools allow too great a latitude It is best to have a combination of the two methods The recent appointment of a medical commission by the Association of American Medical Colleges to inquire into the whole scheme of education shows how much we have still to learn in this field Medical schools and hospitals have gone on apace, but it is impossible for the privately endowed institution to compete with those who have been endowed for generations, and they are unable to keep the best type of teachers Insurance companies and large commercial institutions also make inroads on our scientific staffs, and thus we lose some valuable personnel We have two aims before us in medical colleges One is to create good physicians and the other is to advance scientific knowledge from the standpoint of the university We have to guide the student until he is able to become an efficient practitioner, but we must also give him a scientific method of thinking It is hard to give all this to the average student without making him overfed for his size, but to the higher typed minority we can, perhaps, give such a training We must, however, remember not to spoil a good clinician by a too slavish adherence to laboratory technic The center of knowledge is constantly shifting and its scope widening A study of medicine now includes knowledge of biochemistry, of physical forces, of electrotherapeutics The solution must be found in correlating all these aims with clinical practice

## SYMPOSIUM ON ENDOCARDITIS

### Bacterial Endocarditis

DR. W S THAYER, Baltimore *Of 206 cases of bacterial* endocarditis, 145 came to necropsy, 115 were streptococcal in origin, twenty-eight, pneumococcal, twenty-six were caused by *Staphylococcus aureus*, twenty-three by the gonococcus, eight by Pfeiffer's bacillus, and four by *Staphylococcus albus*, one was due to *B pyocyaneus* and one to *B anthracis* For the purpose of comparison, twenty-four fatal cases of uncomplicated rheumatic heart disease in young persons were studied The leukocytosis was much higher in these than in the streptococcal infections, they were cases of true pancarditis The valvular lesions were not recognizable during life The mitral valve was most often affected, next, the aortic, next, the tricuspid—in about 40 per cent There was relative frequency of mural endocarditis in the left auricle presenting wrinkled, puckered patches that looked like virulent endocarditis, but it was really fibrous exudate On section, the auricular wall was packed with Aschoff bodies Besides these cases we had five in which scars were found at necropsy Pneumonic endocarditis is an acute malignant process with extensive vegetations and ulcerations It is a disease of middle life, and follows acute pneumonia It is characterized by high fever, increased leukocytosis and valvular distortion The aortic valve is most frequently affected, the mitral next Death occurs in a few weeks Some cases ran a subacute course of several months' duration *Staphylococcus aureus* endocarditis is an acute malignant process with acute septic pyemia Fever was high, leukocytosis was very high Sometimes the disease pursued a subacute course, but cultures were obtainable several months before death Gonococcal endocarditis was most common in the third decade of life The relation to preexisting gonorrhea was not always apparent There was early anemia, and leukocytosis was very high The aortic valves were most frequently affected, but in twenty-three cases studied the pulmonary valves were more affected than in other forms of endocarditis The course was less acute than that of *Staphylococcus aureus* and of pneumococcus endocarditis Streptococcal endocarditis varies with the character of the organism The mitral valves are most frequently affected Fever is high, but leukocytosis is not so high as in other forms Anemia is progressive Embolic phenomena, nephritis and clubbing of the fingers are frequently found Hemiplegia occurs in one third of the cases Peridental infections are more commonly seen than in other forms of endocarditis

### Evidence that Digitalis Influences Contraction of the Heart of Man

DRS A E COHN and H E STEWART, New York Our studies have been along the line of German workers (Goethe and Rosenthal), taking roentgenograms of the heart on moving films We have shown that while in the normal heart the rate is not changed the excursion is increased In auricular fibrillation, the rate is lowered but the excursion is increased There are two factors involved here, with the slowing of the rate one would expect contraction to change It is also a question of pressure Also, when atropin is given the rate is changed, but the excursion is not changed We feel therefore, that our studies have proved that digitalis does influence the heart even when the heart is normal

### Further Report on Patients Who Recovered from Subacute Bacterial Endocarditis

DRS DUNCAN GRAHAM J A OILLE and H K DETWEILER Toronto In 1915 we presented before this association a report of twenty-three cases of *Streptococcus viridans* bacteremia, in all of which the patients recovered Of these

patients, five are not traceable, twenty are living, four are in good health, fourteen are fairly well and able to work, one, working as a music teacher, is gradually losing strength, one has been a chronic invalid for twelve years In 1915, six of the twenty-three had no obvious endocardial involvement, but five developed murmurs under observation Later, twenty-two had a mitral systolic murmur unaffected by respiration, nine had an aortic systolic murmur, and three with previous rheumatic history showed mitral stenosis, one had no murmur, three had slight enlargement of the heart Most of them had mild fever, all showed positive *Streptococcus viridans* blood culture, some of three or four months' duration Recently, sixteen of these patients have been reexamined to note persistence or alteration of murmurs In nine of the sixteen, mitral systolic murmur has persisted, in four it has disappeared and been replaced by a systolic aortic murmur, constant in respiration and increased by exertion In one case of mitral and aortic murmurs, originally, the mitral murmur has now disappeared In four patients with aortic systolic murmur, the murmur has persisted, and in two patients with both aortic and mitral systolic murmur, the aortic murmur has ceased In the three mitral stenosis cases, signs are now more marked No new mitral stenoses have developed One patient never had a murmur, one mitral systolic murmur, present in 1915, has since disappeared Two patients have developed slight enlargement of the heart All but one of these patients showed signs and symptoms characteristic of early stages of malign form of subacute bacterial endocarditis, such as fatigue, weakness, moderate anemia, joint and muscle pains, gastro-intestinal disturbances, restlessness, irritability and mild fever While there were no chills, progressive anemia, emaciation or embolic phenomena, there were positive blood cultures in all cases of *S viridans* Similar cases have been seen from time to time since 1915, but the occurrence of twenty-three in one locality in a short period of time suggests possibility of a small epidemic We believe that this form of endocarditis occurs more commonly than is supposed, and that young children are most frequently affected

### The Electrocardiogram of Ventricular Enlargement

DR PAUL D WHITE, Boston During the last ten years, about 4,000 persons have been electrocardiographed and the results analyzed, 288 showed right axis deviation, and of these 53 per cent had mitral stenosis, 7 per cent had pulmonary stenosis, 2 per cent had congenital dextrocardia, 398 had abnormal left side deviation, and of these 30 per cent had hypertension and 20 per cent, aortic regurgitation We feel that there is a definite relationship between abnormal right deviation and mitral and pulmonary stenosis With left deviation there is relationship to aortic regurgitation and hypertension

### Value of the Electrocardiogram in the Diagnosis and Treatment of Heart Disease Significance of Abnormal Ventricular Complexes

DR F N WILSON, Ann Arbor, Mich In the recognition of cardiac irregularities, perhaps 90 per cent can be recognized without the graphic method if the physician has enough experience Observations can be better checked up by the electrocardiograph On the other hand, certain irregularities cannot be detected without cardiographic methods, such as auricular fibrillation and extrasystoles In the recognition of valvular lesions, the electrocardiogram is rarely useful It is of more value in the interpretation of murmurs The electrocardiogram will tell whether the heart is damaged The electrocardiogram is of no direct value in the recognition of cardiac weakness or cardiac failure Its most important use is in the recognition of myocardial changes, on account of the fact that no clinical method gives direct evidence of the state of the heart muscle In certain abnormalities, the main change is in the heart muscle Such changes are indicated by (1) increase in the P-R interval, (2) bundle branch block, and (3) preponderance Electrocardiographic abnormalities occur in many clinical conditions, therefore, abnormalities do not mean anything in themselves and are important only as indicating that the heart muscle has been exposed to injury

### Value of the Electrocardiogram in the Diagnosis and Prognosis of Coronary Artery Disease

DRS B S OPPLNHEIMER and MARCUS A ROTHSCHILD, New York There are many cases of sudden cardiac death in the senile and presenile period due to coronary artery occlusion with infarct It is difficult to make a clinical diagnosis of myocardial involvement We have added one electrocardiographic sign in this group of cases The changes noted may be (1) intraventricular block, (2) bundle branch block, (3) changes approaching bundle block, and (4) arborization block We have made histologic sections of ten hearts showing intraventricular block, and the results show that we must divide arborization block from bundle branch block We have now added additional criteria (1) change in the R-T interval, and (2) bundle branch block After coronary artery occlusion, if there is improvement, the change in the R-T interval returns to normal Examination was made of 100 cardiac cases coming to necropsy In forty-seven there were abnormal electrocardiograms Three showed coronary artery occlusion It appears that we cannot get coronary artery occlusion without electrocardiographic evidence Of the forty-seven cases showing abnormal electrocardiograms, five showed bundle branch block, six showed changes approaching bundle branch block, seventeen showed arborization block, nineteen, R-T interval change These changes, however, are not specific for coronary artery disease As a working hypothesis, the Q-R-S (intraventricular block) changes are evidence of damage of the conduction system, occurring late after the insult, but usually permanent The R-T changes denote damage to the myocardium, occurring quickly, but usually of a temporary character In regard to prognosis, myocardial change with an abnormal electrocardiogram give a worse prognosis Where there is no electrocardiographic change, the duration of life is found to be longer

### Arrhythmia of Auricular Fibrillation

DR E S KILGORE, San Francisco This paper is a study of the irregularity of the ventricle in such cases It was found that the respiratory cycles have an influence on the average cycle of the ventricle A strong pressure tends to lengthening of the ventricular cycles at one phase of respiration in some cases This may show that we have two types of cycles in the ventricles considered from a time, or chrononomic standpoint Very pronounced effects, other than pulse rate, may take place in the ventricle Atropin standardizes the cycle lengths independent of accelerating effects From the chrononomic point of view the cycles may differ quantitatively as well as qualitatively, perhaps by respiratory effect, but most of the variations in this study are not explained by our knowledge at the present time

#### DISCUSSION

DR JOSEPH L MILLER, Chicago During the last three years I have encountered eight patients with acute endocarditis Blood cultures were positive for *Streptococcus viridans* in all these cases Four of the patients died after from four to seven months' illness Formerly, when we relied only on the clinical manifestations and from this picture made a diagnosis of septic endocarditis, we found that all the patients died Now we take blood cultures, and of the patients who show positive cultures, many recover Looking back, I think that in the four fatal cases I would have made a diagnosis of septic endocarditis The four who recovered should have been classified as rheumatic endocarditis because in them the mitral lesions appeared before the other symptoms developed In none of these cases were there embolic phenomena, none had petechial rashes, and none had chills, except in one case in which a complicating pericarditis developed

DR JOSEPH CAPPS, Chicago I was interested in the prognosis of these cases, especially those which fell into the *Streptococcus viridans* group Maybe the explanation offered by Dr Graham as to the probability of an epidemic in Toronto is adequate but, perhaps, more careful cultural methods detected a group of cases which would have been passed by as not being bacterial endocarditis Now that we

are accustomed to taking cultures more often we are getting a higher incidence of bacterial endocarditis In St Luke's Hospital, Dr Biggs found fifty-seven positive blood cultures of *Streptococcus viridans* Thirty-one of these patients are dead The rest are living and well after two years We have done some work with sodium cacodylate, and our figures show better results, but in the light of the work of Dr Graham, which shows in many instances a spontaneous recovery without treatment, we must be very cautious in making statements attributing results to any particular method of treatment

DR H A HARE, Philadelphia *What percentage of cases* develop cerebral processes? What was the proportion of patients who showed infarct or other pathologic change in the kidney? I have noted the extraordinary rarity with which patients suffering from bacterial endocarditis die with symptoms of decompensation In a considerable number of cases which I have seen, almost every patient has died with evidence of infarct in some part of the body, either a widespread paralysis or a renal or splenic infarct, but not of myocardial degeneration with circulatory feebleness

DR HENRY A CHRISTIAN, Boston *From a clinical point* of view, it is curious that there is any doubt about the direct action of digitalis on the heart muscle Digitalis is also very efficient in some cardiac cases in which there is no arrhythmia and no tachycardia, a group in which it seems difficult to explain the action of digitalis as direct action on the heart muscle In another group with complete heart block and slow ventricular action, similar beneficial effect is obtained from digitalis I believe it acts directly on the heart muscle The rhythm being already slowed, there is no action on the rhythm

DR GEORGE BLUMER, New Haven Conn Dr Thayer said that for obvious reasons the incidence of gonorrheal infection was confined chiefly to the third decade The reasons are not quite so obvious I should think infection might occur in several decades We are indebted to Dr Graham for giving us the subsequent history of cases reported nine years ago In a review of bacterial endocarditis I pointed out the difficulty of accepting evidence, accepted at that time as evidence, that patients were suffering from endocarditis That difficulty still exists We know how difficult it is to interpret evidence when the patient does not die and when there are no embolic manifestations That condition exists in rheumatism We can overcome that difficulty in two ways first, by postmortem studies, second, by observing and following up the subsequent history of these cases One curious point noted by Dr Graham was that, notwithstanding the fact that there were several cases of mitral regurgitation, not one of those cases later developed mitral stenosis

DR. T STEWART HART New York In cases in which one sees tremendous diuresis after digitalis and no slowing of the heart, and no change in blood pressure, there was no absolute evidence that the digitalis did not act on the kidney or on the heart I can substantiate the prognostic and diagnostic features mentioned by Dr Oppenheimer I selected twenty five cases showing abnormal curves, and I have followed all but three, of the twenty-two followed, all but three patients are dead More than half the number died within six months after the electrocardiographic evidence was secured Many of them would not have been recognized without electrocardiographic help If we should get into the habit of taking records earlier, diagnoses might be made earlier

DR JOSEPH PRATT, Boston Recently some cases of subacute bacterial endocarditis due to *Streptococcus hemolyticus* have been reported I should like to ask Dr Thayer what percentage of his cases were due to *S viridans* and what proportion to *S hemolyticus* I have seen it stated that the gonococcus attacks the tricuspid and the pulmonary valves more than other organisms do If the pulmonary valves and the tricuspid valves are involved on the right side and not on the left, is that infection due to the gonococcus?

DR EMANUEL LIBMAN New York One of the most interesting subjects brought up by Dr Thayer is the question of involvement of the endocardum or the left auricle in cases of rheumatic fever It is important in studying cases of endocarditis, to note that rheumatic endocarditis and subacute bacterial endocarditis may exist, both in the active stage, in the same heart Subacute bacterial endocarditis may occur in the active stage, on the basis of a healed rheumatic endocarditis—and a healed subacute bacterial endocarditis may be accompanied by a fresh attack of rheumatic infection In Dr Graham's cases I see no way of avoiding the conclusion that there was present a subacute bacterial endocarditis The fact that embolic manifestations were not present does not exclude that possibility It is to be noted that anhemolytic streptococci (*Streptococcus viridans*) may acquire hemolytic properties during the progress of a case When we look carefully at hearts obtained from cases of subacute bacterial endocarditis, we find evidence of the frequency of mild attacks and of recurrences I have observed at least eight cases of subacute bacterial endocarditis, with positive blood cultures, in which recovery ensued At least two were mild cases, but not as mild as those reported by Dr Graham The other six were of the usual but not most severe type In none of my cases, nor in those reported today, were the phenomena found that are present in cases that come under observation after having spontaneously become bacteria-free I refer to such conditions as diffuse glomerular nephritis, embolisms, anemia and splenomegaly This is curious, and awaits a proper explanation The studies of Drs Oppenheimer and Rothschild are of value in the study of all cases of so-called angina pectoris particularly when the question arises as to whether there is present a thrombosis of a coronary artery or an acute abdominal disease, or whether both are present During the last year I observed a patient who had evidence of previous myocardial disease and who was suffering from an attack which might have been either a coronary thrombosis or an acute pancreatitis The electrocardiographic examination showed the changes often caused by a recent coronary thrombosis The subsequent clinical course confirmed this finding

DR LLEWELLYS F BARKER, Baltimore It has been mentioned that the absence of systematic blood cultures explains the failure to discover mild cases of *Streptococcus viridans* endocarditis This may be true in some places, but it is not true of our work in Baltimore We make blood cultures regularly in all cases of prolonged fever, but we have not seen this type of cases My results corroborate those of Dr Thayer We have not had experience with these mild cases of *Streptococcus viridans* endocarditis I think, therefore, that there must be other reasons, apart from the taking or not taking of blood cultures, to explain the absence of such cases in our experience

DR W S THAYER, Baltimore Embolic phenomena are exceedingly frequent in staphylococcus infection I have seen them in influenzal and *Streptococcus viridans* infection As to the causes of death in these cases, rarely was a true myocardial insufficiency the cause, but myocardial insufficiency played a large part in the mortality There were several cases of cerebral embolism In regard to Dr Blumer's question, it is difficult to answer I have generally considered the third decade as the period of greatest exposure In regard to the number of cases of infection by *Streptococcus viridans* and *Streptococcus hemolyticus*, there were seventy-two of the former and ten of the latter The *S viridans* infections were long lesions The lesions from *S hemolyticus* were small fresh lesions In regard to recovery from *S viridans* endocarditis we have had one such case, but none of the other patients recovered We have had three cases of unaccountable fever in which *S viridans* was obtained from the circulation, but not in great numbers and later it disappeared Of course it one thinks of the number of cases of oral sepsis it is not surprising that one picks up *S viridans* in the circulation In regard to Dr Libman's remarks anatomically there is abundant proof that fresh infection occurs on old nodules We have evidence that recoveries take place from gonorrheal endocarditis I believe that, in many cases, recovery can occur early in the course of subacute endocarditis but recovery later on, when large vegetative masses have occurred, is not very common The blood deals with *S viridans* in the circulation but it is the lesion

which causes the danger In this case, large masses of bacteria are shut in and are cut off from the general circulation

DR A E COHN, New York These observations were based on a study of four cases Dr Hare spoke of a dose of 0 9 gm as being a very large dose Various workers have taken a diametrically opposed view Effort has been made to apportion dosage to body weight A dosage of 0 9 gm is a common one, and doses of more than twice that amount can be given with less discomfort to the patients now than formerly Nausea and vomiting do not occur until after the change in the T-wave, so that we feel that a dose of this size is safe and satisfactory and without much discomfort

DR J A OILLE, Toronto I think that Dr Graham's explanation is correct Whenever signs of petechiae, embolism and anemia occurred, those patients died What we termed cases of "simple endocarditis" ended in recovery These cases should be divided into two groups (1) rheumatic, and (2) *Streptococcus viridans* These are not all the cases we have seen in Toronto

DR F N WILSON, New York In regard to left ventricular preponderance The electrocardiographic signs are not always as marked as the changes in the muscle as found at necropsy In dogs with aortic insufficiency, there may be considerable enlargement of the heart without electrocardiographic signs In syphilis, however, I have seen these cases change very quickly to arsphenamin I have seen many dogs die from subacute bacterial endocarditis, with *Streptococcus viridans* infection, which they developed spontaneously

DR M A ROTHSCHILD, New York It has been possible by means of the electrocardiograph to diagnose, or to suspect with certain accuracy, fresh injury to the myocardium We have followed cases with fresh injury to the postmortem, but clinical and electrocardiographic evidence gradually disappears, so that the only point remaining is the inversion of the T-wave in Lead III Our interpretation in the three cases in abnormal electrocardiograms with myocardial injury was made because the injury had healed completely, leaving a healed area in the heart muscle This may be the explanation of the fact that in some cases the electrocardiogram does not give definite evidence

### Treatment of Scarlet Fever with Scarlatinal Antistreptococcus Serum

DR FRANCIS G BLAKE, New York We have found that the serum blanches the rash and that the serum has prompt curative effect, with recovery within thirty-six hours after serum dosage Continued use has confirmed clinical impressions The serum has been effective in twenty complicated cases treated before the fourth day In septic complicated cases, a single intramuscular injection of from 35 to 90 c c brought about cure within twenty-four hours, in one very toxic case, four injections were given Several points are proved by clinical experience There is a toxic substance in the blood, this disappears after intramuscular injection, the toxin usually disappears about the tenth day People whose serum does not blanch scarlatina rash are susceptible The insusceptible have a blanching power to the serum The toxic substance disappears on convalescence and is sometimes excreted in the urine The toxin can be destroyed in vitro by human blanching serum, and also by Dochez horse serum The toxin disappears from the blood of the susceptible within four hours after serum injection All toxic manifestations tend to disappear after serum injection, but less quickly in complicated cases The duration of the rash is two and one-tenth days, as compared with ten days in untreated cases

### Scarlet Fever

DRS GEORGE F DICK and GLADYS H DICK, Chicago Review of the literature since 1912 shows two facts 1 The hemolytic streptococcus is constantly present in scarlet fever 2 Immunity to hemolytic streptococci can be acquired This does not prove, however, that the hemolytic streptococci present are the cause of scarlet fever, so we had to produce experimental proof The work, begun in 1916, was interrupted during the war, but was continued in 1919 The results were positive *Streptococcus hemolyticus* may be divided into two groups according to cultural reactions on mannite The scarlet fever organism may or may not ferment mannite This was proved on two volunteers The susceptible individual contracted scarlet fever This fulfilled all the requirements of Koch's law We also found that there was no cross-agglutination between mannite fermenting organisms and nonmannite fermenting organisms Each had its own agglutination reactions Both organisms produce the toxin of scarlet fever The toxin injected into the susceptible produces fever, nausea, vomiting and rash, which disappear in forty-eight hours

#### DISCUSSION

DR GEORGE KOBER, Washington, D C It may not be without interest to state that in my tabulations of milk-borne epidemics of 195 outbreaks of typhoid fever, ninety-nine of scarlet fever and thirty-six of diphtheria, in nineteen instances of the scarlet fever epidemic there was no evidence of the disease among the hawkers of the milk The epidemic at Marylebone, St Pancras and Hampshire in November and December, 1885, was traced to a particular dairy farm, but no sign of scarlet fever could be discovered at or near the dairy Some of the cows were suffering from an ulcerative disease of the teats and udders Other circumstances favored the bovine origin of the disease On examination, certain micrococci were found in the diseased tissues and organs of the cows, and in the discharge from their teats They were grown on various culture mediums Inoculation of calves with this material, whether in culture or direct from the cow, produced a disease having unmistakable affinities with human scarlet fever The microbe inhabited both the tissues and the organs of human scarlet fever patients and of the cows, and the investigator declared that it be given the name *Micrococcus scarlatinae* In my report, published in 1895, I stated that while there is no positive proof that there is a disease in the cow which is communicable as scarlet fever in man, when we consider that toxins may and do produce a scarlatinous exanthem in man, often impossible to differentiate clinically from true scarlatina, there is nothing strained in the assumption that in these debatable instances we are dealing with typical instances of a streptococcus and a staphylococcus infection There is little doubt that scarlet fever is caused by *Streptococcus hemolyticus* This organism, judging from my clinical experience with scarlet fever, must possess, at different times, different degrees of virulence, which alone can account for the difference between mild and malignant epidemics of scarlet fever In the early eighties I observed two epidemics of scarlet fever in a sparsely settled district of California In the first epidemic I did not lose a single patient, five years later I encountered another epidemic in the same district, when one out of every four or five patients died I recalled then what the older writers had to say about the epidemic constitution of the atmosphere I believe that telluric and atmospheric conditions influence the virulence of certain disease germs

DR AUGUSTUS WADSWORTH, Albany, N Y Is there anything unusual about the serum sickness in these cases, and does the serum have any effect on the nephritis?

DR ALEXANDER LAMBERT, New York Were these cases followed along for more than three weeks to see whether any nephritis developed afterwards?

DR C P HOWARD, Iowa City The skin reaction in scarlet fever as a diagnostic aid has proved of great assistance to me, especially in mild contact cases When there was sore throat and leukocytosis, but very little evidence of scarlet fever, we would get a negative reaction We have seen the demonstration of the serum given subcutaneously, and it causes disappearance of the rash in about sixty hours Another matter of some interest is the lessening of the leukocytosis

DR FRANCIS G BLAKE, New York All these patients had serum sickness One patient developed a mild nephritis in the third week He had a large amount of toxin in the urine on the third day of the disease Another complication was otitis media and sinusitis in a child, present at the time of its admission During the fourth week the child developed otitis media in the other ear Another child had a cervical adenitis, which subsided promptly

### An Endocrine Factor in the Chemical Control of Body Temperature

DR W B CANNON, Boston Boothby has shown that introduction of epinephrin causes increase in the metabolic rate, 1 mg represents an increase of 50 calories A stimulation of the splanchnic nerve will cause 40 per cent increase in metabolism, but not if the suprarenal on that side has been removed Therefore, this effect is obtained by direct or reflex stimulation A second point is that suprarenal secretion is increased when the animal is exposed to danger of fall of body temperature When the animal is exposed to cold the hair rises, which corresponds to gooseflesh in man This is due to sympathetic or autonomic stimulation In animals with denervated hearts, it is found that the heart is very sensitive to epinephrin The temperature of the experimental animal (cat) can be lowered by introducing cold water into the stomach, the animal (or in some cases the human subject) has to warm up that water We call this establishing a "heat liability," and in the cat used it took 1,160 small calories for 88 c c water at 0 5 C There was a fall of heart rate and then a rise The heart made a physiologic response and beat more rapidly With removal of the suprarenal there is from 2 to 15 per cent less response When warm water was used there was no heat liability There was shivering as well as heart rate increase Therefore, epinephrin secretion is increased to prevent lowering of body temperature This physiologic response is useful to the organism because if the suprarenal is removed, the heat mechanism is removed With the suprarenals removed or denervated, shivering is prolonged Another point is that there should be increase of metabolism when cold water is introduced without shivering A volunteer who took 750 c c of water, at 1 3 C, felt cold at first, but warm later, and had no shivering I believe from this work that there is a true chemical calorigenesis caused by the suprarenal This mechanism is also set in motion by fever, as experiments showed

DISCUSSION

DR L G ROWNTREE, Rochester, Minn I should like to relate these observations to some factors in Addison's disease One feature is the cold feeling of the skin, although the temperature is normal Patients in the shocklike condition have a very cold feeling Patients with diabetes insipidus have marked heat liability One patient drank 35 liters of iced water and was shivering most of the time If he drank warm water the shivering disappeared

DR WALTER B CANNON, Boston Recently my attention was called to the experience of individuals living in tropical climates These persons never drink very cold water, they know from experience that it is a very uncomfortable thing to do There is a possible relation of this fact with the phenomena I have presented

### Iodin Therapy in Toxic Goiter

DR E H MASON, Montreal We have found that pure cases of exophthalmic goiter, in which abundant iodin is given, lose the toxic state Metabolism reaches a normal level in one week The exophthalmos recedes and the thyroid gland becomes smaller In exophthalmic goiter, the thyroid cannot completely iodize the molecule, and this is the cause of the toxicity Iodin enables the gland to manufacture the normal product Exophthalmic goiter, then, may be classed as a dysthyroidism Glands removed after iodin therapy show more normal structure There is normal colloid Iodin therapy has been used in the thyroid clinic with good results Typical exophthalmic goiter yields readily to iodin therapy This is a pure dysthyroidism In atypical cases, with moderate exophthalmos, the toxicity does not completely disappear with iodin treatment This is a mixed type, partly dysthyroidism, and partly hyperthyroidism The latter condition persists in spite of iodin therapy Hyperthyroidism itself must be corrected by thyroidectomy The cases of dysthyroidism with hyperthyroidism are very difficult to treat Some atypical toxic adenomas are benefited by iodin, but there must be more than one type of adenoma functionally speaking Iodin therapy is a step forward in the treatment of exophthalmic goiter The necessity for ligation will be infrequent if we use complete medical treatment with iodin in a limited number of cases

DISCUSSION

DR HENRY A CHRISTIAN, Boston A great deal of damage will be done with iodin in thyroid cases if we get too enthusiastic over these results Our results in the Massachusetts General Hospital and the Peter Bent Bingham Hospital have shown that iodin is very valuable as a preparation for operation because it controls the situation temporarily in certain cases The control is limited, and continuation of treatment in a large percentage of cases seems to result in complete loss of benefit from the iodin If it is discontinued after a considerable period of time, there is a marked increase in symptoms to a point which is much more marked than that prior to the iodin therapy, and consequently, there is considerable danger in connection with operations, after long use of iodin Another source of trouble is that the patient is apt to go home and continue iodin dosage at home Dr Mason's method of treatment may prevent trouble, but we should recognize that there is still a lot we do not know about the thyroid in relation to iodin, and as clinicians we may cause harm in the course of acquiring knowledge Though the harm may be unintentional, it may be real

DR TORALD SOLLMANN, Cleveland Is there any reason for giving this unusual form of iodin as chosen in preference to sodium iodid or compound solution of iodin (Lugol's solution)?

DR ALEXANDER LAMBERT, New York Iodin therapy is a step forward, but it is not a new step It is a good clinical method, but we must consider enlargement of the thyroid as a sign of lack of equilibrium of the endocrine metabolism This results in disturbance of thyroid secretion This was noticed particularly during the emotional strain and excessive physical fatigue of the war period The thyroid enlarges in the effort to restore physical equilibrium A large, soft, fresh enlargement is produced by physical overexertion Such patients respond to thyroid therapy

DR H S PLUMMER, Rochester, Minn Iodin therapy is based on a definite hypothesis and this reasoning must be understood in order to know when to give iodin Exophthalmic goiter is the result of excessive stimulation of the thyroid Iodin does not act when the product is normal With a basal metabolism of 80 there is little abnormal product Compound solution of iodin will not give any effect Excessive stimulation of the gland will change the picture, and compound solution of iodin will produce effect Including toxic adenoma cases, we get results with this solution In one case of toxic adenoma, I did not give iodin The patient died twelve hours after of typical exophthalmic goiter crisis I did not give digitalis I think that digitalis is dangerous and should be avoided In cases of generalized edema, broken compensation, we give iodin Iodin has a marked influence on the latent infection I don't think that it matters which type of iodin is used, in the crisis we can get control of the situation in thirty-six hours after giving compound solution of iodin I have given unconscious patients 30 drops by mouth or by rectum up to 100 drops, and the patient would be able to sit up to meals the next day, and would be ready for operation in a week I do not believe that exophthalmic goiter can get worse under this treatment, except after long periods Patients used to die before they got it, but we cannot attribute individual results to it There is a natural fluctuation in the disease

DR L M WARFIELD, Ann Arbor, Mich In 1912, Dr David Marine suggested giving small doses of iodin in exophthalmic goiter Dr Crile gave small doses and converted a hyperplastic gland into a quiescent one and then operated I believe we should give credit to Crile for this work in 1912 This was not followed up

DR. E H MASON, Montreal The only time we gave iodin over a long period of time was when we gave it for eight months 3 minims a day, and there was no return of toxicity The question was brought up as regards the harmful use of

iodin in previous years Iodin was not used intelligently, it was used in cases of pure hyperthyroidism Now we have differentiated the various types of goiter and we know where to use it Dr Marine published a paper recently in which he said that iodin should not be used in exophthalmic goiter This was after we had started to use iodin

### The Influence of the Thyroid on the Increased Heat Production During Lactation and Pregnancy

DR DAVID MARINE, New York Whether there is increased heat production during pregnancy is still actively debated I have studied this question in rabbits, using sixteen normal animals for study during one or more pregnancies We also used eleven animals on which partial or complete thyroidectomies had been performed In the first week of pregnancy there is a drop, and later a marked increase in heat production, which does not fall at parturition, but during the later stages of lactation As it is impossible to impregnate thyroidectomized animals, we have to impregnate the animal first, and in these animals there is a very slight rise in heat production during pregnancy I believe there is a rise in heat production which cannot be accounted for by the active metabolism of the fetus, further, that this rise in heat production is stimulated by the thyroid In pregnancy the thyroid usually enlarges, unless the subject is protected by administration of iodin Pregnancy and lactation form one period at which goiter develops, the other being puberty I believe that the increased heat production has a bearing on the development of goiter during pregnancy

DISCUSSION

DR WALTER B CANNON, Boston Did Dr Marine make any examination of the thyroid in the offspring? Is it not possible that the thyroid of the offspring might play a part in this heat production?

DR DAVID MARINE, New York We have made some such observations, but we do not know whether the fetal thyroid can assist the mother in carrying the increased metabolic rate We have tried that with the administration of iodin Iodin given to thyroidectomized rabbits will not help to maintain heat production, but it is carried over into the fetal thyroid by the placenta Therefore, I think that the thyroid hormones formed in the fetus cannot be transmitted back to the mother

### Early Diagnosis of Gastric Cancer

DR HENRY A CHRISTIAN, Boston We have been in the habit of advising periodic health examinations to detect deficiencies, and I believe that a health examination into our methods of diagnosis would prove helpful Concerning the early diagnosis of cancer of the stomach, little progress has been made I do not believe that more accurate diagnoses are made by the roentgen ray or that we detect cancer of the stomach early in its development by this means My clinical impressions are these (1) Most cases of cancer of the stomach are definitely described by history taking if the patient presents himself for study, (2) very few cases of cancer of the stomach are unexpectedly discovered by the roentgen ray These are clinical impressions checked up by hospital records, but not backed up by statistical study of a large number of cases I reviewed 2,000 cases, and among these were seventeen patients with cancer of the stomach proved by operation or necropsy Many of the patients had symptoms recognizable by the house staff when they came in They had a suggestive history and a palpable mass in the abdomen, when examined One case of cancer was diagnosed ulcer by the roentgen ray, the ulcer was really in the duodenum Operation eight months later proved the existence of cancer There were 110 patients with gastric symptoms, with roentgen-ray examination negative for gastric cancer Seventeen patients were discharged with a diagnosis of gastric neurosis, seventeen had evidence of inflammatory lesions, but not of cancer In thirty cases diagnosed ulcer, we may find cancer to exist later on I believe, therefore, that my pessimism is justified, when I say that we are in a very defective condition as regards getting these patients to the surgeon early enough We must get some better method of diagnosis than we now possess

DISCUSSION

DR JULIUS FRIEDENWALD, Baltimore The difficulties arising in the diagnosis of cancer of the stomach emphasized by Dr Christian are recognized by all On the other hand, unless one comes to an early conclusion in these cases, there can be but little hope for cure I have been in the habit of urging exploratory operation in patients over 40 who manifest gastric symptoms, with a sudden onset, not relieved by a few weeks of medical cure, and especially in those cases presenting an absence of free hydrochloric acid with the presence of lactic acid, and a persistence of occult blood in the stools Of value, too, in diagnosis are the signs of early stenosis in the form of a partial obstruction, a positive Wolf Junghans reaction in the gastric contents, and a sustained high blood sugar tolerance curve However, even with every effort to arrive at an early diagnosis in this disease, our results have been extremely discouraging, as a result, partly, of the fact that most patients are unwilling to submit to exploratory incisions in the early stage of this affection, and partly of the absence of symptoms of indigestion at this period, when the growth may assume considerable proportions without even producing any evidence to the patient himself

DR EMANUEL LIBMAN, New York It is unfortunate that we must all agree that we have made no progress in the diagnosis of early carcinoma of the stomach In my own experience, the roentgenologist has, at times, found evidences of the disease when I could not make the diagnosis clinically This occurred particularly when the carcinoma was on the posterior wall or when the patient was still well nourished Some, at least, of the cases with large growths belong to the group of what I term hyposensitives This emphasizes the great importance of periodic examination of all persons It is interesting to note that some cases give no symptoms except when infection of the wall develops The presence of leukocytosis helps in the diagnosis of such cases The main clinical complaints are pain, vomiting and fever

DR HENRY A CHRISTIAN, Boston The points brought out by Dr Friedenwald and Dr Libman are signs dependent on rather a late stage of cancer development They are not early evidence That is why application of our methods does not discover cancer early One reason of my skepticism as to surgical investigation is that seventeen years ago Dr Munroe did a large number of gastro-enterotomies for all sorts of gastric symptoms There were considerable difficulties in treating these patients later, but we did not discover cancer accidentally any more than the roentgenologist does today Both these methods must be confessed to have resulted in a surprisingly large number of failures in the effort to discover cancer

### Some New Phases in the Study of Urinary Specific Gravity

DR O H PERRY PEPPER, Philadelphia Various solids have a constant relationship in the urine The specific gravity of the urine is the sum of all the specific gravities of the solids contained Each individual solid contributes to the specific gravity In these studies the Westphal balance was used, and single voidings and twenty-four hour specimens were studied No attempt was made to control diet in normal subjects With nephritic patients we varied the salt and protein elements The specific gravity examination was divided into (1) that supplied by chlorids and urea, (2) the residual specific gravity, minus urea and chlorid The solids remained about constant, the urine varied only as to water Grouped averages of specimens from normal persons varied more widely than specimens from the same person A group of normal urines was charted and compared with the urine from a group of patients with chronic glomerular nephritis The latter showed a higher proportion of residual of elements over urea and chlorids than the normal The chlorid discrepancy is more marked in patients with nephritis with edema, the nephritic patient fails to excrete enough urea and chlorids in the urine The normal urine has 28 per cent residual solids, with 72 per cent chlorids and urea In the nephritic patient these figures are reversed I believe that the study of residual specific gravity in the urine of nephritic patients is important

*(To be continued)*

# Current Medical Literature

## AMERICAN

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### American Journal of Medical Sciences, Philadelphia

167 469 624 (April) 1924

*Alcohol Factor in Eliminating Racial Degeneracy C R Stockard New York —p 469
*Effect on Kidney of Treatment for Syphilis A R McFarland Rochester Minn —p 477
*Growth and Length of Human Intestine J Bryant Boston —p 499
*Variations in Gastric Secretion of Normal Individual J R Bell and W MacAdam London —p 520
*Effects of Roentgen Ray Energy on Spleen C H Harbinson, Albany, N Y —p 529
*Atypical Spinal Tumor N Sharpe New York —p 542
*Dietetic Management of Diabetes F M Allen Morristown N J —p 554
Insulin in Diabetes Cases W E Nicely and C C Edmondson, Waukesha Wis —p 570
Routine for Insulin Therapy L Jonas and J H Musser Jr Philadelphia —p 586

**Alcohol Factor in Eliminating Racial Degeneracy**—The experimental work done by Stockard on the effects of alcohol shows it to be a decidedly selective agent acting to injure and eliminate only the weaker and less resistant germ-cells, thereby improving the quality of the race With full appreciation of all the difficulties in transferring the results obtained from the study of one animal kind to another, the following seems to Stockard to be a perfectly conservative and warranted deduction It is highly improbable that human beings have ever injured or eliminated their normal resistant germ cells with alcohol Alcohol has probably eliminated some of the bad Those nations that have used the strongest beverages through many generations have now, from a standpoint of performance and modern accomplishments, outstripped other nations with less alcohol in their history This may be due to some selective effects

**Effect of Antisyphilitic Treatment on Kidney**—Data obtained by McFarland seem to show that ordinarily the irritation of the kidney which occurs under treatment for syphilis has a marked tendency spontaneously to return to normal, regardless of treatment While the measures employed seemed to hasten the process in some instances, the effect is not striking Withdrawal of mercury seemed to be the most important single procedure in relieving the kidney Whether mercurial inunctions or intramuscular injections of mercury succinimide are given, seems to make little difference in the time of appearance or extent of renal irritation The renal irritation resulting from combined arsphenamin and mercury treatment is practically equivalent to the sum of that produced by the two drugs given separately Patients who have damaged kidneys show a higher degree of reactivity to treatment than normal patients, but recovery seems to be quite as satisfactory There is a tendency for more severe reactions to occur as treatment progresses If sufficient time for recuperation is allowed repeated courses of treatment may be given, at least up to three or four, without causing renal damage There is a marked tendency for spontaneous recovery from the renal irritation, even in the face of continued administration of the drugs In view of the good prognosis with regard to the nephrosis, the mercury should not be stopped too frequently, the rest periods should be sufficient to control the situation

**Growth and Length of Human Intestine**—Bryant presents a large and, accurate series of data with regard to intestinal growth and length Evidence is presented to show that Treves is incorrect in stating that all children start life with practically the same length of intestine" Furthermore, the evidence available does not support his statement that there is no growth in length of the colon during the first four months after birth" Also, the sigmoid loop certainly is not always of excessive length at birth, therefore Treves cannot be correct in stating that the uniformly long sigmoid loop goes through identical evolutions in all infants during the first four months after birth From a surgical point of view, it is of interest to note the minimum length of intestine compatible with adult life, as determined by the measurements in 242 cases The minimal small intestinal length recorded was 3 meters, the maximal, 8 5 meters For the colon, the minimal length recorded was 1 meter, the maximal length, 3 25 meters These measurements do not include the length of the duodenum and rectum It has been frequently asserted that the tuberculous individual is at a disadvantage on account of having an intestine actually shorter than normal These assertions are not supported by Bryant's measurements on thirty-eight persons dying of this disease, which indicate that the tuberculous individual has an intestine and colon of normal length The existence of an intestinal length shorter than normal both as to small intestine and colon, was demonstrated in twenty-eight persons dying of carcinoma, and in twenty-three gallstone cases

**Variations in Gastric Secretion**—A study was made by Bell and MacAdam, by means of the fractional method, of the gastric response of a healthy individual to the same test meal, under the same conditions, on twenty consecutive days One practical point was disclosed, viz, if a low or normal acid curve is obtained on the first examination, when the clinical history of the patient suggests a hyperchlorhydria, the test should be repeated before a high degree of acidity can be eliminated

**Effects of Roentgen Ray on Spleen**—Harbinson describes the changes that take place in the normal rabbit following roentgen radiation of the spleen The lethal dose of roentgen rays used in these experiments invariably produced a systematic intoxication and resulted in death on the eleventh day following exposure of rabbits over whose lower abdomen or left hypochondrium it was applied Direct radiation of the spleen with this same lethal dose, however, gave rise to no apparent clinical symptoms There was a fall in the leukocyte count characterized by a relative lymphocytosis five days after raying and a return to an approximately normal differential count five days later A few Turck's irritation forms were found in one of the rabbits ten days after exposure of its spleen The lower erythrocyte counts and the increased hemosiderin content of the spleen and liver gave evidence of increased erythrocyte destruction The only findings at necropsy were a pale looking spleen and a large pale liver, the spleen showed no evidence of fibrosis, and no areas of caseous necrosis An early stage of chromatolysis was found, however The chief features of the liver sections were the washed-out appearance of the liver cells, the hyperplasia and desquamation of the Kupfer cells and the abnormal hemosiderin content There was no evidence of injury to the gastro-intestinal canal The theory that foci of necrosis occurring in the intestinal wall after general irradiation are caused by the elimination of toxinous split-products seems to be untenable, at least so far as the spleen is concerned Rather, such evidence of injury, together with similar effects produced in the kidney, would seem to be referable to the direct action of the rays

**Atypical Spinal Tumor**—The four cases reported by Sharpe illustrate how atypical the course of a spinal cord tumor may be Two patients had extradural tumors, involving the cord, one, an intramedullary tumor, and one, a pseudotumor (circumscribed serous meningitis) All of these lesions show features at variance, sometimes widely, with the generally accepted behavior of spinal cord tumor

**Dietetic Management of Diabetes**—The practical point emphasized by Allen is the importance of total calories and body weight in relation to diabetic tolerance and the insulin requirement Increase of weight requires more insulin Reduction of total diet and weight makes possible the complete control of symptoms without serious privations in carbohydrate or protein or excessive use of insulin In Allen's experience, patients with glycosuria or marked hyperglycemia are subject to various dangerous complications regardless of low or high insulin dosage The treatment of diabetes has been improved but not simplified by insulin, and neglect of strict dietary care is condemned

## American Journal of Obstetrics and Gynecology, St. Louis

7 373 504 (April) 1924

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*Microscopic Study of Mechanism of Placental Separation and Extrusion, Central Placenta Praevia Following Braxton Hicks Version P Titus and V L Andrews, Pittsburgh —p 396
*Treatment of Placenta Praevia R McPherson, New York —p 403
*Uric Acid Content of Human Amniotic Fluid J L Williams and J A Bargen, Evanston, Ill —p 406
*Uric Acid in Blood in Toxemias of Pregnancy E L King and W Denis New Orleans —p 409
*Hepatitis in Relation to Inflammatory Disease of Abdomen C G Heyd, W J MacNeal and J A Killian, New York —p 413
*Acute Pancreatitis L F Smead, Toledo, Ohio —p 431
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Meningeal Hemorrhages of New Born and Their Remote Consequences A Gordon, Philadelphia —p 462
*Aquired Atresia of Vagina H Grad, New York —p 469
Hematocolpos in Child of Six Weeks G L Moench, New York —p 471

**Extraperitoneal Cesarean Section**—Davis asserts that necropsies on stillborn infants and on those who died soon after birth show that the number of these children who die from cerebral hemorrhage, after unduly long hours which are eventually either terminated spontaneously or by forceps or version, is unwarrantably large It is this type of case which gives the high maternal and fetal mortality following cesarean section It is this type of case, with disproportion between fetus and pelvis, long labor, with ruptured membranes, unsuccessful attempts at operative delivery, which, Davis says, has made it impossible for him, in more than 580 cesarean deliveries, to reduce the maternal mortality much below 8 per cent Since 1918 he has employed for these presumably septic, unfavorable cases, practically the technic of Thomas, which the latter called "gastro-elytrotomy" He has used it in twenty-eight cases and has lost two mothers and seven children, three of which were stillborn and four died after delivery—a maternal mortality of 7 2 per cent, fetal mortality, 25 per cent Davis says, in closing Extraperitoneal cesarean section will save some lives that would otherwise be lost Classical cesarean section would have saved but few of the women

**Braxton-Hicks Version Controls Hemorrhage from Placenta Praevia**—The sections made by Titus and Andrews are said to establish the already clinically known fact that the combined external and internal version of Braxton-Hicks is an efficient method of controlling hemorrhage from placenta praevia A central placenta praevia may cover a larger portion of the uterine surface than has generally been supposed A comparatively trivial area of placental detachment may cause serious or fatal hemorrhage

**Treatment of Placenta Praevia**—In the last 591 cases of placenta praevia under McPherson's care, seventy mothers died, a mortality of 12 1 per cent, with a stillbirth mortality of about 42 per cent The preference in treatment was given to gauze packing, followed in most instances by an internal podalic version, this being done in 354 of these cases There were thirty-four abdominal cesarean sections, two extraperitoneal cesarean sections, three vaginal systerotomies, twenty Braxton-Hicks operations, forty-three breech extractions and twenty-two craniotomies on dead children, the rest being made up of forceps and normal deliveries

**Uric Acid Content of Amniotic Fluid**—Williams and Bargen were able to demonstrate uric acid and creatinin in human amniotic fluid by Folin's methods These substances exist in a concentration greater than in the blood The amount of urea, nonprotein nitrogen and uric acid in human amniotic fluid increases as the term of pregnancy is prolonged The increase of the nonprotein nitrogen in the amniotic fluid in advanced pregnancy suggests that the fetal urine may be a partial source of the liquid The greater concentration of uric acid in the amniotic fluid over that in the blood suggests that in the toxemias of pregnancy the increased uric acid of the blood may arise, in part, from a more highly saturated amniotic fluid,

**Uric Acid in Blood in Toxemias of Pregnancy**—King and Denis interpret their results as being a confirmation of the observations of Williams, Caldwell and Lyle, and Killian and Sherwin regarding the accumulation of uric acid in eclamptic and preeclamptic toxemias They believe that the determination of blood uric acid promises to be of considerable value in diagnosis and prognosis in eclamptic and preeclamptic conditions Their experience has been that in preeclamptic toxemias the increased blood uric acid may serve as a useful test in doubtful cases They have invariably found that the more severely toxic patient showed extremely high uric acid values, a condition which was associated with little or, in most cases, a relatively small rise in the nonprotein nitrogen, and in cases of recovery with a relatively slow decline toward normal values

**Hepatitis Associated with Chronic Abdominal Infection**—Heyd and his associates are convinced that there are certain types of liver change that are associated with chronic abdominal infection, and which render the patient somewhat of an invalid even after successful surgical intervention They believe that when an infection is once initiated within the abdomen and its course is chronic that the liver reacts in a variety of ways, but always with some degree of hepatic degeneration, and that in a certain proportion of cases surgical intervention is associated or followed by death due primarily to hepatic insufficiency

**Pancreatitis**—Smead discusses noninflammatory pancreatic necrosis, true inflammatory pancreatic necrosis and true inflammatory pancreatitis and cites cases of each type

**Acquired Atresia of Vagina**—Grad reports the case of a woman whose physician applied a strong caustic to the uterine cervix as a treatment for leukorrhea The result was a complete vaginal atresia at the upper third The cervix was dug out of its adherent position and pulled through the incision in the scar of the vagina The vaginal mucous membrane was then sutured to the cervix, thus restoring the patency of the vagina

## American Journal of Ophthalmology, Chicago

7 257 336 (April) 1924

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Adenocarcinoma Probably Arising from Lacrimal Gland L M Francis, Buffalo —p 260
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## Archives of Internal Medicine, Chicago

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*Symptomatic Polycythemia with Cyanosis and Dyspnea P F Morse, Detroit —p 459
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*Histologic Hydrogen Ion Studies of Kidney E J Stieglitz Chicago
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*Skin Reaction to Morphin J D Pilcher and T Sollmann, Cleveland —p 516
Hydrogen Ion and Buffer Values of Duodenal Contents of Normal Men C W McClure O C Montague and L L Campbell, Boston —p 525

**Peripheral Stasis in Myocardial Insufficiency**—The results obtained by Boas and Dooneief in their study give added significance to the high capillary pressures reported by one of them in certain cases of hypertension, and demonstrate again that these high readings were not determined by a high venous pressure

**Mechanism of Absorption from Nasopharynx**—The experiments reported by Blumgart indicate that crystalloids, colloids and, to a lesser extent, particulate matter, traverse the nasopharyngeal mucous membrane by being absorbed by way of the olfactory nerve cells and thence to the systemic lymphatics The clinical and physiologic significance of these findings is discussed

**Heart and Blood Vessels of Marathon Runners**—Gordon et al found that the average vital capacity of the lungs in marathon runners was normal, which indicated that prolonged vigorous training did not increase the breathing space of the lungs The heart was not enlarged, as determined by the roentgen ray, which indicates that years of the most vigorous physical effort did not produce cardiac hypertrophy Immediately following the race, there was a temporary decrease in heart size, gradually returning to normal in about one day No gap" was found in the auscultatory curve of the brachial artery The systolic pressure immediately after the race was normal, while the diastolic was distinctly diminished It is suggested that shortly afterward the systolic pressure fell, whereupon both pressures rose to normal

**Conduction Changes Accompanying Pericardial Effusion**—Gager reports the case of a man with a large pericardial effusion, accompanied by a well marked depression of conductivity of the bundle of His, which was readily converted by vagus pressure into 2 1 auriculoventricular block These phenomena disappeared at once after the removal of 500 c c of pericardial liquid A further point of interest was a definite hypertension, which fell steadily until normal limits were reached and maintained

**Symptomatic Polycythemia**—Five cases are reported by Morse, four of which present clinical features closely resembling Ayerza's syndrome but due to pulmonary fibrosis rather than primary disease of the pulmonary artery The fifth case illustrates the fact that extensive pulmonary arterial syphilis may occur without Ayerza's syndrome

**Reaction of Kidney Cells**—Animal experiments made by Stieglitz show that when the kidney is secreting an acid urine, the cells of the parenchymatous tubules, both the convoluted tubules, proximal and distal, and the loops of Henle (thick limb) are alkaline in reaction When the urine is alkaline, these same cells are acid When the alkalinity of the urine is exaggerated, the acid reaction of the cells is increased In all the nephritic kidneys studied the damaged cells presented an acid reaction, irrespective of the reaction of the urine These results indicate that the cells of the convoluted tubules and loops of Henle are essentially involved in the determination of the hydrogen ion concentration of the urine The reaction of the cells of these tubules bears a constant relationship to the reaction of the urine

**Auricular Fibrillation in Goiter**—Of the three cases reported by Baumgartner, Webb and Schoonmaker, two patients had adenoma, one had exophthalmic goiter, one had a paroxysmal, the other two, established fibrillation The heart condition improved in all three patients following the administration of digitalis—two receiving small doses, the last (exophthalmic) massive doses The first two recovered completely from hyperthyroidism and the heart condition, while one died following operation The authors say that these patients should be given digitalis as other patients with fibrillation are given it, and operation should be performed even if there is fibrillation

**Skin Reaction to Morphin**—Pilcher and Sollmann's work shows that the local reaction to an injection of morphin is not at all modified by the acquirement of systemic tolerance, it is the same in patients during the various stages of habituation and dishabituation, as it is in normal individuals Scientifically, this result is of interest in confirming the fact that the acquired tolerance does not extend to all the effects of morphin, but that it is confined to certain functions

## Arkansas Medical Society Journal, Little Rock

**20** 173 192 (April) 1924

Focal Infection in Relation to Internal Medicine J E Legge Cumberland Md —p 173

## Boston Medical and Surgical Journal

**190** 653 682 (April 17) 1924

*Intermittent Intestinal Obstruction B Tenney, Boston —p 653
Private Duty Nursing A N Broughton Jamaica Plain N Y —p 657
*Ovarian Cyst Complicating Pregnancy C J Kickham, Boston —p 660

**Intermittent Intestinal Obstruction**—Tenney criticizes the view taken so often that every patient who includes constipation among his complaints, and is relieved of this symptom by constant use of cathartics or laxatives, is really well On the contrary, he regards such cases with suspicion He holds that normal intestine in a normal abdomen will act sufficiently if the intake contains enough rough stuff and lubricant, and that failure to respond to the presence of rough stuff and excess of lubricants indicates mechanical obstruction in the intestinal tube or some other real pathology in the abdomen Intermittent obstruction may be the cause of such symptoms Abdominal pain, nausea and vomiting are the recurring complaints of patients with partial obstruction The use of active cathartics for a long period, especially when the constant result is a fluid or porridge-like stool, is suggestive Five cases are cited (1) enterolith with constrictions in the ileum, (2) ileal obstruction with dilatation, (3) ileal angulation, (4) double adenocarcinoma of colon, and (5) obstruction in cecum

**Ovarian Cyst Complicating Pregnancy**—Kickham reports a case in which 724 ounces of fluid were evacuated from an ovarian cyst after the patient had given birth to an 8½ pound baby after four hours of labor

## Florida Medical Association Journal, St Augustine and Jacksonville

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## Johns Hopkins Hospital Bulletin, Baltimore

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*Gliomato is of Leptomeninges W M Firor and F R Ford Baltimore —p 108
*Effects of Chronic Irritations on Morphology of Peritoneal Mesothelium R S Cunningham Baltimore —p 111
*Mode of Transmission of Streptococci Associated with Tonsillitis A L Bloomfield and A R Felty Baltimore —p 115
*Peculiar Morphology of Malarial Parasite in Case of Chronic Malaria in Temperate Zone J G Huck and D T Bowden Baltimore —p 122

*Blood Grouping IV Demonstration of Two Additional Iso Agglutinins (D and Q) in Human Blood C G Guthrie and J F Pessel, Lawrenceville, N J —p 126

**After Effects of Late Toxemias of Pregnancy**—In 177 cases reviewed by Harris, the diagnosis of eclampsia was made in fifty-one—in thirty-eight primiparae and thirteen multiparae Forty-two women were delivered at term and nine prematurely Nine of these patients died and forty-two were discharged entirely free from any sign of the disease—a mortality of 17.6 per cent In each fatal case death was directly attributable to the eclampsia Of the fifty-three babies, double ovum twins occurring twice in the series, thirty-one were stillborn or died during the first three weeks of life, a mortality of 58.4 per cent Of the forty-two mothers discharged from the hospital entirely free from signs and symptoms of the disease, twenty-seven returned for study one year later, and in twenty-four no evidence of renal damage could be found Three patients showed positive signs of chronic nephritis These figures indicate that chronic nephritis is a sequel to be reckoned with in women who have had eclampsia, but at the same time they apparently afford proof of the correctness of the belief that one attack of eclampsia confers at least a relative immunity against its occurrence in subsequent pregnancies The diagnosis of preeclamptic toxemia was made in eighty-three cases in this series In none of the patients did the history or physical findings indicate the existence of chronic nephritis during the pregnancy or puerperium in question On their discharge all of these patients were free from symptoms of the disease Eighty-five children were delivered Eight were stillborn or died during the first three weeks of life, including five which were premature, a mortality of 9.4 per cent Of fifty-five of these eighty-three patients who returned for reexamination at the end of one year, thirty-three had signs of chronic renal involvement The incidence of chronic nephritis was twice as great in multiparae as in primiparae These findings demonstrate the incorrectness of the generally accepted view that preeclampsia toxemia rarely eventuates in chronic nephritis In forty-three cases pregnancy was complicated by nephritic toxemia Nine women had convulsions Four deaths occurred, two as the result of uremic coma, one of uremic convulsions and one of hemorrhage resulting from premature separation of the normally implanted placenta Thirty-nine patients were discharged from the hospital three weeks or more after delivery, all with evidences of chronic nephritis One of these died in uremic coma six months after delivery Thirty returned for examination at the end of one year Evidences of chronic nephritis were present in all, and, in fact, its manifestations were more severe than when the patient left the hospital Harris feels that these cases bear out the general accepted view that the underlying cause of the complication is a chronic nephritis and that the complication makes itself manifest in increasing severity and at an earlier period in each succeeding pregnancy

**Gliomatosis of Leptomeninges**—Firord and Ford relate the case of a boy, aged 6, who had pain in the back, and paralysis and atrophy of the left leg of one year's duration, hydrocephalus, "convolutional atrophy" of skull, and enlarged sella turcica, with yellow cerebrospinal fluid A mass of tumor tissue compressing the lumbar cord was removed, but the boy died Metastatic infiltration of cerebral and spinal meninges from cystic glioma in the region of the infundibulum, and internal hydrocephalus were the principal findings at the necropsy Nine cases previously recorded in the literature by others are abstracted

**Effects of Chronic Irritations on Peritoneal Mesothelium**—The outstanding facts involved in the results obtained by Cunningham are (1) that the unbroken continuous layer of mesothelial cells lining the peritoneum is essential to prevent the formation of adhesions, and (2) that profound alterations may be brought about in these cells without the development of adhesions, so long as the layer of surface cells is intact The injection of laked or whole blood, or any other mildly irritating substance, into the peritoneal cavity causes the serosal cells to increase in number and at the same time to round up, becoming at first cuboidal and finally columnar When desquamation occurs, the remaining serosal cells proliferate rapidly and cover the denuded area The change may progress until the layer of mesothelium is several cells thick and even in this state it is ample to prevent the development of adhesions In long continued irritations connective tissue proliferation takes place and small outgrowths appear on the parenchymatous organs, but even here the changed mesothelium rapidly covers the advancing core of blood vessels and connective tissue stroma, preventing the development of adhesions

**Transmission of Tonsillitis**—The transmission of tonsillitis was studied by Bloomfield and Felty Apparently, aerial (droplet) infection plays no part because the causal organisms are located in a region from which they are not eliminated by this method Furthermore, since only few and occasional hemolytic streptococci come forward into the mouth at all, contamination of objects, even if placed in the mouth, is relatively infrequent Expectorated hawkings seem the most probable vehicle by means of which the bacteria are discharged Hence, transmission must be by direct contact with the patient or with freshly contaminated objects

**Chronic Malaria Caused by Plasmodium Falciparum.**—A parasite resembling that described by Stephens as *Plasmodium tenue* was found in a colored man, aged 35 This man had never been out of the state of Maryland and the only history of a malarial infection related to an attack which was probably this infection, sixteen years previously He had syphilis and while being treated with arsphenamin suffered mildly with chills and fevers at irregular intervals, especially following exposure to cold The question arises as to whether this parasite found in his blood is identical with that described by Stephens or is merely one form of the already well known types of malarial parasites The evidence presented indicates that this case may be one of chronic *Plasmodium falciparum* infection relapsing after the administration of arsenic which stimulated the parasite to greater ameboid activity

**Iso-Agglutinins D and Q in Human Blood**—The earlier observations made by Guthrie and Pessel concerning the existence in human blood of at least three iso-agglutinins and the corresponding iso-agglutinogens have been confirmed and extended A fourth iso-agglutinin (D) has been demonstrated in the serum of one member of "Group II" in association with iso-agglutinin A Iso-agglutinin D was not found in the serum of any other blood in the series including Groups I, II, III and IV The corresponding iso-agglutinogen (d) has been demonstrated in the red cells of one member of Group III It has since been found in the erythrocytes of six additional members of Group III in association with iso agglutinogen *a* The presence of iso-agglutinogen *c* in association with iso-agglutinogens *a* and *b* has been demonstrated in the red cells of three members of Group I A fifth iso-agglutinin (Q) was found in the serum of one member of Group IV The corresponding iso-agglutinogen (*q*) was present in the red cells of another member of Group IV Neither this agglutinin nor this agglutinogen were found in any other blood in the series This agglutinin (Q) was present in lower concentration than the others and therefore required a lower temperature for its demonstration Its action occurred within one of the four accepted groups rather than between these groups, but in the quality and specificity of the agglutination produced, it was in no way inferior to the others

## Journal of Industrial Hygiene, Boston

5 447-494 (April) 1924

Laundry Trade I Study in Activity and Fatigue M Smith, London —p 447

Blastomycosis as Complication of Industrial Accidents R M Carter, Green Bay, Wis —p 457

Cancer Producing Tars and Tar Fractions E L Kennaway, London —p 462

## Journal of Laboratory and Clinical Medicine, St Louis

9 437-512 (April) 1924

*Basal Metabolism in Office Practice D A Hallek and M M Clayton, Rochester, N Y —p 437

*Effect of Insulin on Complement Derived from Insulinized Guinea Pigs for Wassermann Reaction O S Kretschmer, Pueblo, Colo. —p 442

*Senile Atrophy of Liver I F Zeckwer Boston—p 444
Flocculation Reactions as Substitute for Wassermann Test F Green, Montreal—p 447
*Comparative Study of Wassermann and Meinicke Reactions C B McGlumphy Chicago—p 453
*Reciprocal Relationship of Chlorids and Glucose in Blood W W Herrick New York—p 458
Technic for Bacteriologic Diagnosis of Bacillary Dysentery L O Dutton Memphis Tenn—p 463
Specificity and Sensitiveness of Author's New Complement Fixation Test for Syphilis J A Kolmer Philadelphia—p 468
Comparative Results of Kolmer Method and Routine Wassermann Technic on Fourteen Hundred Tests M Cohen and S R Haythorn Pittsburgh—p 476
Kolmer Method of Complement Fixation for Diagnosis of Syphilis W H Kellogg V Wells and D Beck Berkeley Calif—p 481
Apparent Specific Action of Cholesterin Reinforced Antigen in Wassermann Reaction E S Gault Philadelphia—p 486
*Method of Approaching Cerebellum G Eckstein Cincinnati—p 490

**Basal Metabolism in Office Practice**—Haller and Clayton review the results they have obtained in the course of performing 600 basal metabolism tests on 450 selected patients in routine office practice The same technic and the same apparatus, a portable one, were used

**Insulin Does Not Affect Wassermann Reaction**—Kretschmer states that the pooled serum of guinea-pigs treated with insulin over a short period of time, in whom acute hypoglycemic symptoms had thus been created, showed no appreciable change in its complementary titer in comparison with guinea-pigs not so treated, it retains this property for fully thirty days

**Senile Atrophy of Liver**—Six hundred and eighty-four cases were studied by Zeckwer, in which the maximum weight of the liver was 2,975 gm, the minimum, 600 gm By charting the results it is shown that the greatest average weight of 1,704 gm is attained between 35 and 40 years, after which there is a steady decline in weight to an average of 1,054 gm in persons over 85 years of age The average weight in males is greater than in females, but the two curves run parallel

**Comparative Value of Meinecke and Wassermann Tests**—Of 1,162 tests made by McGlumphy for purpose of comparison of the Wassermann and Meinicke tests, 1,147 were in agreement, 98 7 per cent The most striking features of this series of cases are first, the high per cent of cases in which the two reactions agree, second, the superior results obtained by the Meinicke test in a small group in which the diagnosis of syphilis was unquestioned It was possible to obtain clinical data in only a small percentage of the cases examined, but when such data was at hand it furnished conclusive evidence of the value of the Meinicke reaction

**Reciprocal Relation of Chlorids and Glucose in Blood**—In the course of several routine glucose tolerance tests on a miscellaneous group of office patients, determination of the chlorids of the whole blood was also made by Herrick There was found an inverse relationship between the concentration of glucose and chlorids in the blood after the ingestion of 100 gm of glucose This suggests that the chlorids possess the property of shifting to other tissues from the blood, in order to preserve the optimal osmotic conditions in the blood

**Method of Approaching Cerebellum**—To gain access to the cerebellum Eckstein works his way inward directly from the edges of the foramen magnum There is no need of trephining The position is accessible, and it secures at once the calamus scriptorius and the lower edge of the cerebellum

## Journal of Philippine Islands Medical Association, Manila

4 39 82 (Feb) 1924

Dysentery Problem in Philippines Epidemiology of Recent Outbreak R G Padua—p 39
Administration of Provincial Hospitals by Philippine Health Service S Y Orosa—p 48
Primary Ectopic Intraligamentous Pregnancy with Living Baby B Roxas and V Villarama—p 50
Early Medicine in Philippines A Villegas—p 54

**Dysentery in Philippines**—The mortality from dysentery in the Philippines is enormously high, higher than that of typhoid and cholera The disease occasionally occurs in epidemic form in certain sections of the islands usually during the rainy season, and chiefly affects children The recent epidemic in Leyte Province was one of bacillary dysentery, although some cases of amebic infection occurred synchronously The spread was progressive from carriers and convalescents through the agencies of polluted drinking water, insanitary sewage disposal, contacts and, perhaps, flies and other insects For the further curtailment of dysentery Padua recommends (1) the installation of portable public water supply in the "poblaciones" and "barrios", (2) the construction of a sanitary system of sewage disposal, (3) the extension of educational propaganda on sanitary and health matters, (4) the enactment and rigid enforcement of suitable legislation for the prompt and compulsory notification of dysentery cases as well as of other communicable diseases

## Journal of Urology, Baltimore

11 327 433 (April) 1924

*Cause of Stone in Urinary Tract W M Spitzer and P Hillkowitz Denver—p 327
*Resection of Nerves of Kidney for Nephralgia and Small Hydronephroses L Papin Paris, and L Ambard Strasbourg—p 337
Myxoma of Bladder a Pathologic Entity C R O Crowley and H S Martland, Newark N J—p 349
*Dependent Drainage of Perivesical Region A L Chute, Boston—p 365
*Gradual Decompression in Chronic Vesical Distention Decompressing Manometer and Automatic Bladder Irrigator E C Shaw and H H Young Baltimore—p 373
Sacral Nerve Block Anesthesia in Surgery of Prostate and Bladder E S Judd and W R Meeker Rochester Minn—p 395
*Ethylene Anesthesia in Genito-Urinary Surgery A B Luckhardt and H L Kretschmer Chicago—p 415
Position of Ureter Catheters E Beer New York—p 425
Modification of Standard Box for Ureteral Catheters V C Pedersen, New York—p 429
Method for Storing Sterile Renal Catheters N E Tannenbaum, Baltimore—p 431

**Cause of Stone in Urinary Tract**—As a tenable theory of stone formation in the urinary tract, Spitzer and Hillkowitz submit the disturbance of colloid equilibrium The protective action of colloids in ensuring the solubility of the urinary solids is of very delicate balance The colloidal state is quite unstable, and there is always a tendency to assume a more stable condition by falling out of suspension The presence of other colloids of opposite electric charge will produce this result With the removal of the protective colloids, the urine will become subject to the laws obtaining in aqueous solutions, and precipitation of the supersaturated salts will take place The mere formation of a sediment does not, however, explain the transformation into a stone Some mortar is necessary to glue the crystals together The existence of an organic binder in stone has been known for a long time It is a framework on which the inorganic crystalline structure is built up, and consists, essentially, of irreversible colloids that have been thrown out of suspension

**Resection of Nerves of Kidney**—Details of the technic employed and clinical histories of the six cases in which the nerves of the kidney were resected are given by Papin and Ambard All of the fat around the kidney and ureter is removed Care is exercised to preserve the peri-ureteral vessels The renal pedicle is exposed and the nerve trunks are picked up and divided The renal artery and vein should be stripped completely of all the nerve filaments which surround them After completion of the nerve resection it is necessary to do a nephropexy as all of the fatty supports of the kidney have been removed The method is only applicable in cases of hydronephrosis when no obstruction is present

**Dependent Drainage of Perivesical Region**—Chute asserts that dependent drainage of the perivesical space is especially indicated in suppurations that involve the loose perivesical tissue, the most typical of these conditions is suppurative pericystitis This type of drainage may, however, be used to advantage in various operations that involve the probable infection of the perivesical tissues deep in the pelvis near the base of the bladder Dependent drainage carried out in this manner is much more efficient than any type of uphill drainage that can be devised This drainage is easily carried out, the tissues involved are not important, the time consumed is very short

**Gradual Decompression and Simultaneous Lavage of Bladder**—The apparatus presented by Shaw and Young is said to furnish an accurate method for gradual decompression of the bladder and simultaneous vesical lavage with antiseptics While the kidney function improves under continuous drainage against gradually decreasing pressure, the danger of infection is obviated and no reaction occurs

**Ethylene Anesthesia in Genito-Urinary Surgery**—In a series of 125 operations carried out under ethylene anesthesia, Luckhardt and Kretschmer have had but one failure This failure concerned an old man, aged 60, who was cystoscoped under ethylene because of an extremely sensitive condition of the deep urethra The first administration of ethylene was unsatisfactory because the patient, though perfectly analgesic, never fully relaxed The second administration resulted in perfect anesthesia

## Kansas Medical Society Journal, Topeka

24 95-126 (April) 1924

Treatment and Management of Tetanus L W Shannon, Hiawatha —p 95
Appendicitis P W Beelman, Lindsborg —p 97

## Medical Journal and Record, New York

119 381-432 (April 16) 1924

Medical Treatment of Duodenal Ulcer W A Bastedo, New York —p 382
Case of True Pneumotyphus with Submaxillary Abscess E C Follett, Washington, D C —p 385
Bronchitis J Barr, London —p 386
Gastro-Intestinal Symptoms and Epigastric Hernia L T Watson, Chicago —p 391
Renal Infection S W Schapiro, New York, and J Wittenberg, Brooklyn —p 392
Obstetric Paralysis E H Smith San Francisco —p 397
Results of Lautenschlager-Halle Method of Ozena Operation J C Seal New York —p 398
Headaches of Nasal Origin L Baer, Philadelphia —p 400
*Nasal Polypi and Sinusitis E V Hubbard, New York —p 402
Quinidin in Cardiac Decompensation M H Kahn and S B Wilensky, New York —p 403

SUPPLEMENT

Seasonal Curves in Mental Disorders F P Norbury, Jacksonville, Ill —p lxxxi
Intracranial Pressure, Its Determination and Significance in Neurosurgical Conditions A S Maclaire, New York —p lxxxv
Child Family Relation, Psychosexual Study J T W Meagher, Brooklyn —p lxxxviii
Work of New York Psychiatric Society S E Jelliffe, New York —p xcii
Segmental Cerebral Monoplegia with Jacksonian Epilepsy Due to Subcortical Glioma D Reynolds Kennett Square, Pa and G Wilson, Philadelphia —p xciv
Hospital Psychiatric Practice D D Durgin, Central Islip, Long Island —p xcv
Sensory Disturbance of Rectum Following Operation A A Landsman, New York —p xcvi

**Nasal Polyps, Sinusitis and Tic**—Hubbard's patient had a pronounced tic, blinking of left eye with contraction of left side of face, varying in frequency and degree When interested and in conversation, the tic nearly ceased He had nasal polypi with a thick purulent discharge from the left nostril From one polypi streptococcus hemolyticus was isolated in pure culture

## New York State Journal of Medicine, New York

24 597-642 (April 18) 1924

Uveitis M L Lerner, Rochester —p 597
*Management of Heart in Pneumonia H Brooks, New York —p 602
*Early Diagnosis of Pneumonia T Howard, Brooklyn —p 604
Beginner in Medicine H J Mulford, Buffalo —p 605
So-Called "Acute Pelvis" H S Stein, New York —p 613
Differential Diagnosis of Exanthemata W L Somerset, New York —p 617

**Management of Heart in Pneumonia**—The most important step in the management of the heart and circulation in pneumonia, Brooks says, is to protect these organs from any unnecessary strain The patient must be spared every unneedful effort Once the disease has been diagnosed and an approximate knowledge of the extent and location of the process has been gained, examinations should be made as brief as possible and at as wide intervals as is consistent with the apparent progress of the disease The position of the patient should be changed as little as possible and in cases of known cardiac defect, in particular, the patient must be moved only as found absolutely necessary Care must be taken that in cases of visceral cyanosis, however, that the position in bed is frequently enough altered so that orthostatic congestion of pendant portions of the lung is not added to the acute inflammatory process It is because of this precaution that Brooks is, in general, opposed to many of the local measures of treatment, such as hydrotherapy, application of sinapisms, cupping and the like, which entail considerable disturbance of the patient's rest and throw strain on his circulatory apparatus He discusses venesection, the use of digitalis, strychnin, camphor, caffein and a few other heart stimulants

**Early Diagnosis of Pneumonia**—Some findings in the early stage of pneumonia are emphasized by Howard (1) the early increased respiratory rate, (2) the early leukocytosis, and (3) that with or without consistent areas of hyperresonance or impaired resonance, with diminished or roughened breathing, the presence of localized râles is most significant, and that these rales can best be brought out by having the patient cough

## Northwest Medicine, Seattle

23 153-202 (April) 1924

Malignancies of Oral Cavity J. A Pettit, Portland —p 153
Compensation Neurosis G E Price, Spokane —p 157
Stage Operation in Exophthalmic Goiter J E Else, Portland —p 161
Treatment of Exophthalmic Goiter with Iodin B T King, Seattle. —p 165
Diverticulitis of Sigmoid, Case A A. Matthews Spokane —p 167
Fractures of Tibia and Fibula Shafts W J Taylor, Port Angeles, Wash —p 170
*Advantages of Local Over General Anesthesia. C W Jones, Olympia —p 174
Prevention of Postoperative Hernia Following Laparotomy L F Watson, Chicago —p 175
*Preventing Swimming Pool Infections C U Moore Portland —p 176
Artificial Pneumothorax C E K Vidal, Galen Mont —p 179
*Tropical Sprue, Necropsy A S Rosenfeld, Portland —p 181
Gas Gangrene (Bacillus Aerogenes Capsulatus) Incidence in British Columbia A S Monroe, Vancouver —p 184
Etiologic Relationship Between Certain Nasal Affections and Bronchial Asthma O M Rott, Spokane —p 185
Acute Perforation of Jejunal Ulcer M E Steinberg, Portland —p 187

**Prostatectomy Under Local Anesthesia**—Jones reports a case of suprapubic prostatectomy in which he operated successfully under procain sacral nerve block

**License Swimming Pool Operators to Prevent Infection**—Moore suggests that swimming pool operators be licensed as food handlers are, and that monthly reports of bacterial counts of swimming pools be published as is done with dairies

**Tropical Sprue**—In Rosenfeld's case tetany occurred within the last few months of illness At the first sign of spasm of the fingers, calcium lactate was given by mouth with some relief Later the symptoms returned with renewed severity and this time with bleeding from the nose, gums, vagina, bladder and rectum While no chemical determinations of blood calcium were made, Rosenfeld believes that a calcium deficiency was responsible for the muscular spasm and impaired coagulation time in this case He suggests, therefore, that it might be wise in all sprue cases to supplement therapy with the administration of calcium either by mouth or intravenously

## Philippine Journal of Science, Manila

24 143-247 (Feb) 1924

Embryogeny and Postnatal Development of Aphididae L B Uichanco. —p 143

## Southwestern Medicine, Phoenix, Ariz

8 157-200 (April) 1924

Liver Function and Liver Function Testing C R Haig, Fort Bliss, Tex —p 157
Embolic Gangrene of Arm, Report of Case J R Moore, Clemenceau, Ariz —p 163
Uterine Prolapse, Treatment J C Masson Rochester, Minn —p 164
Septic Thrombophlebitis of Lateral Sinus Following Suppurative Otitis Media and Mastoiditis, Four Cases A Martin and W A Schwartz Phoenix, Ariz —p 168
Authority of Court to Appoint Medical Experts W Wylie, Phoenix Ariz —p 170
Orthopedic Principles in Industrial Surgery J E Bacon, Miami, Ari. —p 176

## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

### Australian Journal of Experimental Biology and Medical Science, Adelaide

1 1 37 (March) 1924

Effect of Phloridzin on Mortality from Insulin Hypoglycemia in Mice. V B Anderson —p 1
Substitution of Taurine for Cystine in Diet of Mice M L Mitchell —p 5
*Mechanism of Muscular Action O W Tiegs —p 11
Influence of Hydrolysis on Capacity of Proteins to Bind Acids and Bases T B Robertson —p 31

**Substituting Taurine for Cystine Does Not Retard Growth** —Experiments with mice have been performed by Mitchell to determine whether taurine can replace cystine in the diet, with special reference to the adequacy of the diet for growth The evidence obtained appears to show that taurine can, in fact, take the place of a considerable proportion of the cystine in the diet It is pointed out that this fact does not constitute any evidence that taurine is actually convertible into cystine in the animal body

**Mechanism of Muscular Action** —Tiegs points out that the two membranes of Krause of each muscle fiber are excitable and transmit the excitory stimulus from the region of the end plate to the ends of the fiber The resulting chemical changes occur within the interfibrillar spaces, and it is the sarcomeres that produce the mechanical response, acting entirely as surface tension machines Contraction results in the sarcomeres changing from cylindrical to dicebox-shaped structures, it is shown how this change of shape produces a valvular mechanism within the fiber, which, by altering the amount of sarcoplasm in contact with the excitable membranes of Krause, regulates in the most perfect manner the strength of the succeeding muscle twitch On this mechanism depends the alteration of activity in muscles with change in their degree of elongation It is shown that lactic acid is liberated from only one of the excitable membranes, conditions within the fiber are such that the other membrane must liberate a basic substance, whose nature and formation have not hitherto been recognized The passive contracture condition that arises during tetanic contraction is regarded as being due to a temporary adhesion of hydrogen ions to the walls of the sarcomeres Tiegs believes the conclusion is justified that, if there occurs within a muscle a liberation of an acid and a base through the action, as yet ill understood, of the excitatory impulse on their precursors, then the chain of processes which constitute a muscle twitch must occur and the nature of these events—the shortening and subsequent relaxation, the shape of the twitch curve, the accompanying heat output, and, lastly, the wonderful capacity which a muscle possesses for automatically regulating its activity in accordance with its state of shortening, may all be deduced from certain well known chemical and physical laws

### British Journal of Tuberculosis, London

18 43 90 (April) 1924

Classification of Pulmonary Tuberculosis S L Cummins —p 43
Tuberculosis Prevention Work in England A S Macnalty —p 48
Surgical Treatment of Pulmonary Tuberculosis A M Davies —p 51
Treatment of Tuberculosis by Tuberculin W M Crofton —p 54
Survival Factors in Tuberculosis D P Sutherland —p 59

**Classification of Pulmonary Tuberculosis Cases** —In the classification scheme proposed by Cummins, cases are divided and subdivided thus first, on the history and duration of the disease into—(A) acute initial group, (B) chronic or recrudescent group, (C) acute exacerbations in the course of chronic tuberculosis Secondly, on the anatomic extent of the lesions (international classification) into—(1) minimal, (2) moderately advanced, (3) far advanced Thirdly, on the constitutional balance (Inman's classification) into— (*a*) resting febrile, (*b*) ambulant febrile and (*c*) ambulant afebrile

### Calcutta Medical Journal

15 599 638 (Feb) 1924

Difficulties in Treatment of Malaria U N Brahmachari —p 599
Normal Arneth Blood Picture in Tropics Bengal D N Banerjee —p 615
Flagellate (Herpetomonas?) in Peripheral Blood Smear of Case Clinically Kala Azar J N Maitra —p 618
Case of Hydrophobia with Long Incubation Period (Seven Months) A Chakraverti —p 622

**Intravenous Administration of Quinin in Malaria** —Brahmachari states that during attacks of malarial fever the blood pressure is generally low, especially in the pernicious type of cases At the same time, it is in these latter cases that the most rapid introduction of quinin into the system seems indicated, therefore, one is tempted to administer the drug intravenously If there is a profound fall of blood pressure during its administration, the operation is dangerous and may even prove fatal A recent writer on malaria has attributed sudden death in such cases to the introduction of large doses of saline and considers that quinin should always be given in the concentrated form Brahmachari does not agree with this view Observations were made by him in order to determine the changes in blood pressure during intravenous injection of quinin The injections were given in the apyrexial period except in one case It appears that intravenous injection of quinin in concentrated solution (10 grains in 20 c c) is generally followed by a fall in blood pressure and may cause a disappearance of the pulse for a few seconds Intravenous injection of quinin in dilute solution (10 grains in 200 c c) may be followed by a fall in blood pressure, but this fall is neither so sudden nor so great as when the solution is concentrated, and in many cases there is none The slower the injection is given the less likely is there to be a fall of blood pressure The diminished blood pressure may persist for twelve hours or more after the injection Intravenous injection of quinin should always be given in very dilute form (1 300) and at the rate of 10 c c every minute It should never be undertaken lightly In concentrated solution it may be followed by transient muscular twitchings and quickness of breathing, therefore, such injection should be made only after frequent and careful blood pressure observations during the operations The intravenous injection of quinin should be given very slowly in a dilute form, guarded by the administration of pituitary extract or epinephrin and the application of tight bandages over the extremities, especially in cases of the pernicious type of malaria

**Arneth Blood Picture in Tropics** —According to Banerjee, the Arneth index shows a marked "shift to the left" in the tropics, due to the effect of the tropical climate and latent infection, probably malaria The normal Arneth index of healthy Bengalees is 52 55

### Edinburgh Medical Journal

31 221 284 (April) 1924

Biologic and Economic Aspects of Comparative Pathology T Smith —p 221
Traversing Wounds of Orbit D M Greig —p 241
*Case of Multiple Traumatic Perforations of Small Intestine Without Penetrating Wound of Abdominal Wall J Taylor —p 263
Case of Traumatic Involvement of Meckel's Diverticulum J D Gilruth —p 265

**Traumatic Perforations of Intestine** —Taylor relates the case of a man who sustained a severe blow on the lower part of his abdomen from an upright wooden stanchion He vomited his breakfast, and then suffered acute constant, severe, pain There was no sign of contusion of the anterior abdominal wall Pain was referred to the lower part of the abdomen A laparotomy was performed The first loop of small intestine that presented showed a transverse tear involving all coats and extending from the left or lower aspect of the mesenteric attachment of the bowel to just beyond the antimesenteric border The length of the tear was 2 inches The tear was repaired This perforation was situated about 6 feet above the ileocecal valve Two other perforations were found—one 4 feet higher up, with a diameter of one-quarter inch situated on the antimesenteric border, the other a pinhead perforation more proximal These perforations were closed The patient recovered

### Indian Medical Record, Calcutta

43 65 96 (March) 1924

Science of Ayurveda M. K. G Sen —p 65
Medicinal Plants of Kashmir N B Dutt —p. 71
Active Anaphylaxis V T Roy —p 75

## Japan Medical World, Tokyo

4 53 85 (March) 1924

Variation of Bacillus Typhosus I Ohtsubo—p 53
Comparison of Distribution of Glycogen in Mammals and Anuria Y Ohohashi—p 64
*Effects of Thyroid Feeding on Silkworms A Terao and N Wakamori—p 68

**Effect of Thyroid Feeding on Growth**—Silkworms fed thyroid gland developed more slowly than controls, but worms hatched from the eggs of these parents developed more rapidly than the controls

## Journal of Neurology and Psychopathology, London

4 299 391 (Feb.) 1924

Pathologic Laughing and Crying S A K Wilson—p 299
Psychopathology as Branch of Science B Hart—p 334
Case of Myasthenia Gravis E F Skinner—p 344

## Journal of Pathology and Bacteriology, Edinburgh

27 145 215 (April) 1924

Serum Constituents Useful in Cultivation of Gonococcus C E Jenkins—p 145
Hemophilic Bacteria of Normal Throat Types and Incidence J H Dible—p 151
*Acid Fast Bacteria as Source of Vitamin B S R Damon—p 163
*Compensatory Hypertrophy of Suprarenals A L Boycott and C H Kellaway—p 171
Nonspecific Priming of Antibody Production V R Khanolkar—p 181
Titration of Diphtheria Toxin and Antitoxin by Flocculation Methods A T Glenny and C C Okell—p 187
*Pathology of Iron Deficiency and Cotton Seed Poisoning in Pigs J P M'Gowan—p 201
*Metastatic Carcinoma of Pituitary Gland and Diabetes Insipidus A Piney and I Cortes—p 211

**Hemophilic Bacteria of Normal Throats**—In a single examination of the throats of 100 normal and healthy persons forty-seven were found to harbor hemophilic bacilli, Pfeiffer's bacillus being present in thirty In twenty cases other hemophilic bacilli were present From these persons, with the addition of five other nninfluenzal subjects, and seven influenza patients, a total of eighty-three strains of hemophilic bacteria were obtained and examined by Dible Pfeiffer's bacillus accounted for sixty strains Of the residue, sixteen strains were hemolytic

**Acid Fast Bacteria as Source of Vitamin B**—The experimental work reported on by Damon seems to indicate that certain members of the acid-fast group of bacteria contain within their bodies a substance capable of stimulating rapid growth in young rats that are limited to an experimental ration adequate in every respect except in its content of vitamin B This observation confirms a similar conclusion tentatively advanced by the author in an earlier paper and seems to justify the inclusion of the substance in the class of "vitamins" inasmuch as it has been demonstrated by the biologic test The source of this bacterial vitamin does not seem to be clear at this time

**Compensatory Hypertrophy of Suprarenals**—In necropsies made in ordinary cases of Addison's disease, it has often been noted by Boycott and Kellaway that the parts of the suprarenals which have escaped destruction show no signs of compensatory overgrowth This point was made the subject of experimental study The fact that excessive activity of these ductless glands is apt to be harmful may be significant in connection with the failure of compensatory growth There is no reason to imagine that too much muscle or liver or kidney would be harmful, and it is safe for these organs to have powers of growth which in the suprarenals, thyroid or pituitary gland might, by some mistake or bad judgment, bring the organism into trouble If this conception is correct, it might be surmised that the normal size of the ductless organs would provide a larger reserve than is possessed by those which have a greater power of reactive growth The idea is not inconsistent with the facts that at least one suprarenal, and most of the pancreas, testis, thyroid or pituitary may be removed without producing any obvious symptoms or interference with their internal secretory functions

**Pathology of Iron Deficiency and Cotton Seed Poisoning**—The pathologic changes occurring in iron deficiency in suckling pigs and in "cotton seed meal" poisoning are described by M'Gowan These are present mainly in the blood, blood forming organs and liver Such changes are compared with those occurring in trinitrotoluene and like poisoning conditions, and the similarity of the changes produced are emphasized Emphasis is laid on the fact that iron plays two distinct and separate parts in the animal economy, first, and of minor importance, as a constituent of hemoglobin and second and of major importance as taking a vital part in the life functions of every cell in the body and especially in the case of the cells of the liver

**Metastatic Carcinoma of Pituitary**—A case of secondary carcinoma of the pituitary gland is recorded and evidence in favor of the conception of causation of diabetes insipidus by secretion of the pars anterior is adduced

## Journal of State Medicine, London

32 151 200 (April) 1924

*Researches on Vaccine Virus C Levaditi—p 151

**Vaccine Virus**—According to Levaditi the vaccine ultravirus is endowed with a specific affinity for the tissues derived from the ectoderm and for some organs of endodermic origin, whereas its affinity for the blood and the mesodermic tissues is practically nonexistent Certain ectodermic cells require a previous irritation which enables them to fix the germ and to allow its multiplication (skin, cornea, brain) The reproductive elements do not require this irritation Although mesodermic in origin, they attract the vaccine virus because they possess potentially all the characters of the other tissues, no matter what their embryological origin In order that the vaccine virus may attack a given cellular element, it is necessary that this element be of ectoendodermic origin, and moreover that it should be in a state of active growth, that is, of karyokinetic rejuvenescence by previous irritation (skin, cornea, brain) The case of the reproductive cells is an exception, as they fulfill all these conditions, possessing potential ectodermic characteristics and undergoing an active and rhythmic mitotic proliferation The fusion of the male and female elements does not prevent this affinity (fertilized ovum)

## Journal of Tropical Medicine and Hygiene, London

27 73 84 (April 1) 1924

*Treatment of Bilharzia Disease in Young F G Cawston—p 73
*Amebic Bronchitis and Frequent Presence of Live Endamebæ in Sputum and Urine During Acute Amebic Dysentery Petzetakis—p 74

**Treatment of Bilharziasis**—Experience with the intravenous injection of tartar emetic in cases of bilharzia disease associated with the presence of at least three distinct parasites, has convinced Cawston that a permanent cure can be obtained in every case within a month, and that, generally speaking, the maximum total dose required for a child of 9 years is 9 grains given in twenty-four days, the maximum dose being ½ grain Children of 12 can seldom tolerate more than ⅔ grain and usually require 12 grains given over a period of twenty-four days, children of 15 seldom require more than 1 grain as a dose, and a total of 15 grains given over a period of twenty-four days is generally sufficient to produce a permanent cure With care, and the use of some such drug to counteract the cardiac depression of most cases, five injections can be given during the first week, five during the second, four during the third and three during the last week Careful attention must be paid to the degenerative changes that are taking place in the ova throughout

**Amebic Bronchitis**—Independently from cases described under the title "amibiase pulmonaire" (abscess), Petzetakis has found a new form of bronchitis or bronchopneumonia characterized by the presence of live endamebæ in the sputum Owing to hemoptysis, which frequently occurs in these cases, the condition may be mistaken for pulmonary tuberculosis In some cases pulmonary emphysema is probably produced by the existence of endamebae In two cases Petzetakis observed the coexistence of tubercle bacilli and endamebæ The infection in the patients with no history of

dysentery might be caused by the inhalation of infected dust In acute dysentery, very frequently endamebae may be observed in the sputum and urine while the pulmonary phenomena may be insignificant It appears, therefore, that the endamebae enter the general circulation He has also found cases of amebic cystitis and nephritis

## Lancet, London

1 735 786 (April 12) 1924

Foreign Bodies In Bronchi T McCrae—p 735
Longevity of Parasitic Worms J B Christopherson—p 742
Idiosyncrasy to Epinephrin H L Symes Thompson—p 743
*Measurement of Ultraviolet Light A Webster, L Hill and A Eidinow—p 745
*Massive Doses of Digitalis in Auricular Fibrillation Without Heart Failure J Jensen—p 747
Case of Fibromyoma of Stomach J E G Calverley—p 748
*Case of Bilateral Herpes Zoster E R C Walker—p 749

**Longevity of Bilharzia**—The potential longevity of the bilharzia worm in the human body is discussed by Christopherson, and evidence is presented which makes it seem clear that bilharzia worms have a long potential longevity, and do not conform to the conditions which Ray Lankester has laid down as favoring longevity They display considerable energy throughout their (frequently) long life, traversing the portal veins between the liver and bladder (or rectum) Their generative energy is great, commencing early and continuing through life, they deposit enormous numbers of eggs

**Idiosyncrasy to Epinephrin**—Symes-Thompson relates an instance of the occurrence of disquieting symptoms after the injection of procain and epinephrin for the extraction of teeth Incidentally, the patient gave a positive reaction to Goetsch's test for hyperthyroidism

**Measurement of Ultraviolet Light**—Webster, Hill and Eidinow make this measurement by means of a standard acetone methylene blue solution and a standard quartz tube The tube, one with internal diameter of 3 mm, is filled with a solution consisting of two parts of standard methylene blue solution and one part of acetone The method of procedure is given in detail

**Action of Digitalis in Auricular Fibrillation**—The effect of large doses of digitalis has been studied by Jensen with a view of obtaining information of its pharmacologic effect on the heart rate, the excretion of urine, and the production of vomiting in cases of auricular fibrillation without obvious failure The patients were dyspneic on exertion, and some also complained of pains about the left breast None were actually in a state of failure at the time of observation One or 1½ drams of a standardized tincture of digitalis was administered in the morning, six hours later the second dose, 1 dram, was given, and six hours later still the third and last dose, another dram The apex beat was frequently counted and the urine measured every six hours The observations were continued in this way for five days subsequent to the days of administration The whole of this procedure was repeated after the lapse of a fortnight so as to furnish a second and controlling experiment The heart rate was in most cases affected to some extent on the evening of the day of administration, about twelve hours after the first dose had been given, and the average fall in rate by this time was ten beats per minute This fall was maintained the next morning, and later on that day a further fall of ten beats per minute occurred, though no more digitalis had been given The quality of the pulse was much improved, the volume being larger In a few cases coupled beats appeared temporarily The total duration of the effect was from four to fourteen days Digitalis had no definite diuretic effect on any case The patients all felt better and said that they had less palpitation Apart from occasional coupling of the pulse in two cases there were never any indications of overdosage Nausea and vomiting were never seen—a fact of especial interest, tending to show that the vomiting which sometimes occurs early in the administration of digitalis in heart failure depends far more on the failure of the heart than on any irritant effect of this drug on the stomach

**Bilateral Herpes Zoster**—In Walker's case the distribution of the lesions was as follows right side from ninth, tenth and eleventh dorsal vertebrae spreading round the chest to midway between the umbilicus and ensiform cartilage in front Left side from fourth, fifth and sixth dorsal vertebrae spreading round underneath the shoulder, above the nipple to fourth and fifth costal cartilages in front, and also down posterior fold of axilla and back of arm The patient could not recall any previous illnesses, and did not remember being in contact with any cases of herpes zoster or of chickenpox

## Practitioner, London

112 205 272 (April) 1924

Cancer and Intestinal Stasis W A Lane—p 205
Causes of Intestinal Disease A Baldwin—p 211
Tenderness in Acute Mastoid Disease M Yearsley—p 228
Diagnostic Value of Blood Analysis P J Cammidge—p 234
Postpartum Convulsions Due to Circulatory Failure, Recovery T S Wilson—p 245
*Arrest of Hemorrhage from Placental Site J H E Brock—p 248
Fractures of Head of Radius J Driberg—p 262

**Arrest of Hemorrhage from Placental Site**—The accepted explanation of the arrest of postpartum hemorrhage makes hemostasis a function of contraction and retraction of muscular fibers, thus obliterating arteries and veins in the muscular layer The explanation put forward by Brock is that the open mouths, themselves, of the sinuses are sealed by the corrugation and infolding of the mucosa, the result of its intimate attachment to the muscular coat, which, being composed of stretched fibers, is only able to shorten and never to extend Brock holds that postpartum hemorrhage, though partly arterial, is in the main regurgitant venous hemorrhage, so that when a woman bleeds after labor, she is in reality bleeding from the inferior vena cava, for none of the uterine or ovarian veins possess valves Direct pressure on the bleeding point would be the correct treatment for the condition, and not strangulation by contraction, as usually supposed

## Tubercle, London

5 305 360 (April) 1924

*Artificial Pneumothorax Therapy C Rolleston—p 305
*Principles of Immunity in Treatment of Tuberculosis. S R Gloyne—p 319

**Artificial Pneumothorax Therapy**—It appears to Rolleston that artificial pneumothorax demonstrates the great value of rest If early cases were seen early and all of the patients systematically rested in bed for from six months to a year few, if any, would have to pass through the weary course of collapse therapy, or the more painful ordeal of thoracoplasty But this ungraduated rest is applicable to advanced cases in which for one reason or another, such as intestinal disease or other more severe complication, collapse therapy is not advisable As regards the duration of rest, Rolleston is strongly of the opinion that dependence on the thermometer alone is wrong Pulse, weight, appetite, cough and the state of the intestines ought all to be taken into consideration Six months for an early case and a year for one of the more advanced cases is the ideal

**Principles of Immunity in Treatment of Tuberculosis**—While immunology has not provided a specific cure and does not appear likely to do so in the near future, still, in Gloyne's opinion, there are not a few ways in which the issue might be more clearly defined In the first place, he would plead for more precision in the localization of the tuberculous lesion It is not uncommon to find toxemia continuing after treatment has been instituted, as the result of some concealed lesion such as early renal or abdominal tuberculosis In such cases specific vaccine treatment may easily do harm before the trouble is suspected Again, a more rigorous investigation of all patients who have no tubercle bacilli in their sputum would avoid much discouragement in the use of the specific remedy in cases which have been wrongly diagnosed Thirdly, a good deal of work has been done in recent years on secondary and mixed infections, and careful treatment of these infections has a marked effect on toxemia Blood counts might also be made more use of with advantage There is no typical blood picture of tuberculosis, but as an indication of slight toxemia in early cases, a count, if carefully controlled and repeated, is not without value

## Annales de l'Institut Pasteur, Paris

38 179-272 (March) 1924

Bismuth in Trypanosomiasis and Spirillosis C Levaditi and S Nicolau —p 179
Bismuth Compounds in Treatment of Syphilis Fournier et al —p 240
*Parasite of Hydrophobia Y Manouelian and J Viala —p 258
Vaccination of Horse Against Anthrax Brocq Rousseau and Urbain —p 268

**Parasite of Hydrophobia**—Manouelian and Viala describe their technic for staining the supposed protozoon in hydrophobia, which they call "encephalitozoon rabiei" They found it also in the salivary glands

## Annales de Médecine, Paris

15 201-279 (March) 1924

*The Cerebral Ventricles in Syphilis Cestan et al —p 201
Conducting Fibers and Automatic Centers in the Heart R Lutembacher —p 223
Orthostatic Albuminuria A Hanns and J Cuny —p 237
Pulmonary Gangrene A Lemierre and Leon Kindberg —p 244
Anergy in the Tuberculous with Liver Disease L Daniello —p 268

**The Pathologic Physiology of the Cerebral Ventricles in Syphilis**—From their systematic comparative study of the ventricle and spinal fluids in sixteen syphilities, Cestan, Riser and Peres conclude that the difference between the fluid obtained from the ventricle and that obtained by lumbar puncture, as determined especially from researches in syphilis, is due partly to the presence or absence of inflammatory lesions in the ventricle region and partly to the fact that the rigidly maintained direction of the cerebrospinal fluid current is always from the ventricle out toward the subarachnoid spaces The movement of this current can be tested by injection of a stain into the ventricle and subsequent spinal puncture This stain test is instructive only when artificial hypertension subsequent to the intraventricular injection is avoided

## Annales des Maladies Vénériennes, Paris

19 161-240 (March) 1924

Secondary Syphilis J Golay and L Weyl —p 161
Medical Supervision of Prostitutes H Gougerot —p 182
*Resistance of Armenians to Arsphenamins H Mouradian —p 196
Syphilitic Glossitis O Elmscheff —p 207
Orchitis from Colon Bacilli Goubeau —p 211

**Resistance of Armenians to Arsphenamins**—Mouradian concludes from the extreme tolerance of Armenians for arsphenamin that their organic superiority over all other races is incontestable

## Archives des Maladies du Cœur, etc, Paris

17 129-192 (March) 1924

*Shadows of Erythrocytes After Transfusion Van der Hoff —p 129
Improved Orthopercussion I Revai —p 140
Aneurysm of Left Auricle A Rosselet and E Bach —p 145
Mediastinitis, Aortitis, Two Aneurysms Bordet and Giroux —p 152

**Shadows of Erythrocytes After Transfusion**—Van der Hoff determines the number of shadows of erythrocytes by comparing the usual blood counts with controls made with the dark-field microscope Normally about 10,000 to 20,000 shadows are circulating He observed up to almost 200,000 after blood transfusions The hemoglobin index varies after the transfusion in inverse proportion to the number of erythrocytes

## Bulletin de l'Académie de Médecine, Paris

91 439-472 (April 8) 1924

Medical Education and the Faculties G Weiss —p 443
*Moving Picture of a Chemical Reaction E Fourneau —p 458
*Cecal Spirochetosis G Delamare et al —p 462
*Electrocoagulation of the Prostate G Luys —p 464
Calcium Metabolism in an Adult Man E Manoussakis —p 467
Research on Calciuria E Manoussakis —p 469

**Kinematographic Representation of a Chemical Synthesis**—As already mentioned in these columns, Fourneau with his co-workers has discovered the chemical formula of the drug known as "Bayer 205," and has produced the drug He has made a moving picture of the process of the chemical synthesis The molecular weight of the substance is 1,400, and the tolerated dose is 160 times the curative dose

**Cecal Spirochetosis**—Delamare, Djemil and Architouv discuss the relation between certain deficiency diseases and proliferation of spirochetes in the mouth and digestive tract

**Hypertrophy of the Prostate**—Luys reports that he has reduced the size of the enlarged prostate in 115 cases by electrocoagulation applied by the natural route under control of the eye In 4 of the 115 cases there was congenital malformation, in 3 cases chronic ulceration of the prostate, in 4 a polyp in the urethra, in 3 cancer of the prostate, and in 41 cases there was merely a bar formation in the prostate, an actual dike between the prostate and the urethra The intervention was successful in 86 06 per cent, in 8 cases the treatment was abandoned for various reasons, and in 4 the prostate was so large that its removal was imperative This is the only contraindication to the electric method

## Bulletin Médical, Paris

38 429-456 (April 19) 1924

*Radiodermatitis Jeanselme and Giraudeau —p 435

**Radiodermatitis**—Jeanselme and Giraudeau state that the acute or chronic dermatitis liable to follow the use of radium rays cannot be distinguished from the dermatitis from roentgen-ray exposures except, possibly, that the pain is less severe in the acute form Preceding inflammation increases the susceptibility to the rays, while the susceptibility decreases with the age Cells that develop rapidly, such as those from the malpighian layer, basal cells, are more sensitive than prickle cell epithelium They have noted that the skin is particularly susceptible when there is endocrine derangement, as in exophthalmic goiter Treatment of a radiodermatitis, they say, should be that for a burn in general The infrared rays may prove useful as they are considered antagonists to the roentgen rays on account of their longer wave lengths Skin grafting may be needed for persisting ulceration The keratosis and ectasia of vessels in chronic dermatitis might be treated by cryotherapy, while abnormal proliferation of epithelium may require electrocoagulation Roentgen ray epitheliomas have sometimes subsided under radium exposures They give a list of the different tissues and different skin affections classified according to the susceptibility to the rays It seems to be most pronounced in leukemia, psoriasis and eczema, and least pronounced in chondromas

## Médecine, Paris

5 405-480 (March) 1924

Recent Literature on Circulatory, Renal and Blood Affections P Ribierre —p 405
*Mild and Masked Aortitis Leconte —p 415
Auricular Fibrillation and Cardiac Thrombosis A Dumas —p 421
*Murmurs from Exertion H Bonnin —p 426
Bradycardia from Complete Dissociation Doumer —p 431
*Cerebral Disturbances in Hypertension E Donzelot —p 434
*Treatment of Edema A Lemierre and J Levesque —p 438
Kidneys and Antisyphilitic Treatment L Lortat-Jacob —p 444
*Treatment of Orthostatic Albuminuria L Ramond —p 449
Diuretic Treatment P Harvier —p 452
Nature of Bright's Disease H Chabanier et al —p 457
Leukanemia J Rieux —p 463
*Syphilitic Pseudoleukemia A Nanta —p 467
Diagnosis of Acute Leukemia A Touraine —p 470

**Mild and Masked Aortitis**—Leconte reviews the symptoms of slight affections of the aorta The pain may be limited to the sternum or "decapitated"—localized exclusively in the periphery (arms, hands, chin), sometimes there are only palpitations or short attacks of tachycardia, but radiographic examination reveals a broader shadow or an opacity of the aorta Wassermann's test may be positive General disturbances, as headaches, loss in weight, fainting spells can be caused by aortitis The diagnosis is frequently wrong in the gastralgic and abdominal forms The patients are treated for various ailments, especially because the pains start after meals The more oppressive and less acute character of the pain, the inciting influence of exertion, and the occasional association with a feeling of numbness or pain in the arm may lead to a correct diagnosis Meteorism, nausea and diarrhea occur in the abdominal form

**Murmurs from Exertion**—Bonnin points out that a systolic murmur at the apex may be present during the transitory

tachycardia after exertion It does not indicate a mitral insufficiency He believes that it is of extracardiac origin

**Cerebral Disturbances in Hypertension**—Donzelot deals with sudden transitory attacks of blindness, anesthesia, dizziness and similar cerebral disturbances in patients suffering from hypertension He attributes them to local spasms of arteries

**Treatment of Edema**—Lemierre and Levesque recommend peripheral drainage and repeated punctures of the serous cavities in patients with irreducible edema The results are good in Bright's disease as well as in cardiac decompensation Digitalis acts sometimes only after this peripheral damming of the circulation is removed

**Treatment of Orthostatic Albuminuria**—Ramond emphasizes the necessity for good nutrition in children and adolescents with orthostatic albuminuria A diet such as prescribed in nephritis is contraindicated

**Syphilitic Pseudoleukemia**—Nanta describes generalized affections of the lymphatic glands, which occur sometimes in late stages of syphilis In his two cases there was an absolute and relative neutrophil leukocytosis (once an eosinophilia) Specific treatment is indicated

## Presse Medicale, Paris

**32** 321 332 (April 12) 1924

*Aneurysm of the Aorta Andre Thomas—p 321
*Treatment of Gonorrhea A Tansard—p 324
Azurophil Blood Count L M Betances—p 326
Immunotransfusion P Pagniez—p 327

**Syndrome of the Sympathetic Chain and Aneurysm of the Aorta**—Andre-Thomas draws attention to the frequency of signs of lesion of the thoracic sympathetic in patients with aneurysm of the aorta Circulatory and temperature disturbances, unilateral absence of sweating, and the loss of the pilomotor reflex may be found if looked for on the upper extremity and head In the case he reports, nothing indicated that the muscle tonus depends on the preganglionic fibers of the sympathetic

**Vaccine Therapy and Milk Injections in Gonorrhea**—Tansard uses both a specific vaccine and parenteral injections of milk in the treatment of acute and chronic gonorrhea and its complications

**32** 333 340 (April 16) 1924

*Paradoxes of Artificial Pneumothorax Piguet and Giraud—p 333
Uremia and Psychopathies R Targowla—p 336

**Some Paradoxes of Artificially Induced Pneumothorax**—Piguet and Giraud report from Leysin the case of a woman, aged 34, who had daily hemoptysis for three months after apparently successful compression of the left lung—the seat of unilateral tuberculosis The sputum had never been hemorrhagic before, although numerous small cavities had been developing for five months in the lower lobe The blood pressure was not high at any time, the sanatorium treatment had been continued unmodified, and the patient is now thriving In a second patient the lesions were bilateral and there had been hemoptysis before the pneumothorax and it continued afterward The compression of the lung was abandoned and there has been no hemoptysis since They comment on the conflicting opinions that prevail as to the condition of the compressed lung, saying that in Europe less than fifty necropsies have been published after therapeutic pneumothorax

Is the effect a hyperemia from venous stasis which aids in development of fibrous tissue, or is the effect merely from the impossibility of the compressed lung to develop new foci? The latter view is shown to be untenable by a case described in which new foci had continued to develop notwithstanding satisfactory compression of the lung After a period of apparent subsidence of all symptoms under the influence of the artificial pneumothorax there was a flaring up of the old symptoms with fever bacilli swarming in the sputum and rales at a new point, while the pleura and other lung showed no signs of disturbance They know of only one case on record comparable to this and in both, the case progressed favorably thereafter Necropsy in a case in which artificial pneumothorax had failed to arrest the course, revealed the old ulcerations and also some recent ulcerating foci at other points in the completely collapsed lung In another case, fresh tubercles were found in a lung that had been completely compressed for fifteen months In conclusion they remark that the numerous successes of pneumothorax treatment are ample proof that this method of treatment has nothing to fear from such exceptional paradoxic occurrences, and can only gain by careful study of its mechanism

**Uremia and Mental Disease**—Targowla describes a case of lead poisoning with two phases of mental disturbance During the acute psychopathy the urea content of the blood was high, and this uremia persisted after subsidence of the mental derangement He was able to distinguish between the elements of the uremia syndrome and those of the psychopathy proper The latter accompanied a febrile clinical picture indicating insufficiency of the liver He does not incriminate the uremia for the psychopathy, but says that it gives a special imprint to the latter (asthenia, torpor, somnolence, apathy)

## Progrès Medical, Paris

241 256 (April 19) 1924

*Unilateral Gangrenous Diphtheria Bourgeois and Aubin—p 241
*Incipient Phase of General Paralysis J Levy Valensi—p 242
General Review of the Pathology of the Teeth Boissier—p 245
*Reconstruction of Family Life A Rodiet—p 255

**Unilateral Gangrenous Diphtheria of the Pharynx**—The symptoms were of three days' standing when the young man applied to the ear and throat department of the hospital for an emergency operation as the aspect suggested a gangrenous phlegmon of the right tonsil The prostration was extreme, but under diphtheria antitoxin and gangrene antiserum the blackish fetid masses were expelled by the fourth day The patient was left with paralysis of the velum and of the constrictor muscle of the pharynx, headache, and some disturbance in accommodation

**The Onset of General Paralysis**—Levy-Valensi declares that the faculty of self-criticism is not always lost, at least in the early stages of general paralysis, and that a negative Wassermann reaction does not necessarily exclude it Another dogma which he disputes is that general paralysis is incurable It is possible, he contends, to arrest the disease and, if treatment can be begun early enough, to cure it The warning symptoms are a previously unknown irritability, inability to concentrate the attention, to remember recent happenings A history of some brief maniacal excitement or period of morbid depression in the course of syphilis indicates a predisposition long before the dementia develops In certain cases, neurasthenia or mental confusion may give the clue, or headache, insomnia Twitching of muscle fibers, difficulty in swallowing, tremor, hesitating speech, tripping on certain words, the handwriting jerky (periods all commas the v's with rounded bottoms) He adds that in every case of melancholia or mania, a search for syphilis should be made, prompt treatment may ward off general paralysis later The family should be investigated at the same time One of the earliest manifestations of general paralysis in exceptional cases is to stimulate the brain to extra fine work In business audacious enterprises may be undertaken which are based on good reasoning and succeed or a writer may turn out numerous and valuable works The brain seems to be speeded up for a short time One physician who had never written much began to write important and valuable articles, he died from general paralysis by the end of the second year Women sometimes display a passion for collecting gloves stockings, or other articles that they cannot use A merit without precautions against being caught, exhibitionism, often from heedlessness may sound the alarm, one man, previously normal, started to urinate in the presence of ladies

**Reconstruction of Family Life for War Victims**—Rodiet comments with approval on the village of Pontvillain in Belgium where an effort has been made to reconstruct a family life for the persons of all ages left stranded and alone by the mishaps of the war

## Schweizerische medizinische Wochenschrift, Basel

54 341 360 (April 10) 1924

*Lumbalgia F Zollinger—p 341
Invagination of Jejunum in Stomach A Wydler—p 347

Diastolic Pressure Engelen —p 349
*Simple Treatment of Hiccup T Hishikawa —p 352
Treatment of Asthma L von Gordon —p 352 Cont'n

**Lumbago**—In his official duties as physician of the Swiss Accident Insurance Institute and in his private practice, Zollinger has encountered about 500 cases of lumbago The physicians call it this in the noninsured patients and treat it correctly by prescribing salicylates In patients who are insured against accidents, it figures as a sprain of the muscles or spinal joints, but is also treated with salicylates He observed on himself and in the first class of patients that a feeling of stiffness frequently precedes the acute pain Affections of the nose, pharynx or teeth are usually present The pains occur more frequently with alcoholism The dorsal muscles and tendons are not easily torn, and such pain does not last long Contracture of the muscle, functional scoliosis and Lasegue's sign of sciatica are frequent in lumbago He considers the condition as an infectious neuritis which may have been made worse by an accident Only patients who can prove some sudden incoordinated muscular action at the moment of the onset of the pain can be accepted for accident indemnity

**Diastolic Pressure**—Engelen agrees with Sahli in considering the diastolic pressure determined by Korotkow's method as too high This is due to the venous stasis below the arm cuff The figures obtained correspond rather to Sahli's optimum pressure (maximum energy value of the pulse)

**Simple Treatment of Hiccup**—To stop hiccup, Hishikawa recommends inducing the sneezing reflex by irritation of the nasal mucosa with a feather or a piece of paper [This method was recommended by the physician Eryximachos to another guest in Plato's Symposion—Ed] Vomiting also cures hiccup Both methods act by stretching the diaphragm

## Archivio Italiano di Chirurgia, Bologna

9 109-220 (March) 1924

*Experimental Gastric Ulcer N V Bedarida —p 109
The Logical Practice of Surgery B Schinassi —p 148
Mesenteric Cysts of Suprarenal Origin T Ricetti —p 175
Histogenesis of Cysts in Spermatic Cord I Arzela —p 197

**Experimental Production of Gastric Ulcers**—Bedarida injected a small amount of a 0.25 per cent solution of neurin into the anterior wall of the rabbit stomach, keeping in the muscle or submucosa In about eighteen hours a gap had developed in the mucosa, and this became a fibrous ulcer in the course of three to twenty-four days Neurin has a specific paralyzing action on the motor nerve terminals in muscle and on the sensory-secretory plexuses of the submucosa, and consequently the ulcer that results from its injection has the character of a true neurotrophic lesion

## Chirurgia degli Organi di Movimento, Bologna

8 213-424 (March) 1924

*Fibula in Place of Tibia D Fieschi —p 213
Routes of Gravity Abscesses S Vacchelli —p 244
Osteophytes Around Paralyzed Joints R Zanoli —p 277
*Neurotization of Muscle G Serra —p 301
Congenital Radio Ulnar Synostosis D Giorgacopulo —p 342
Lumbarization of Sacral Metamere G Benassi —p 357
Flexed Ankylosis of Knee S Marconi —p 383
Interstitial Myositis of Adductors E Leo —p 411
Air Tight Dressing Serves as a Vaccination S Solieri —p 421

**Fibula to Replace Tibia**—Fieschi urges more general use of the method of shifting the fibula to fit into the stump of the tibia above and below when a segment of the tibia has had to be removed on account of osteomyelitis or crushing injury He gives an illustrated description of his five cases which demonstrate the excellent results, the fibula growing stronger and larger The difference in the growth of the legs thereafter is more marked the younger the subject, but it is practically negligible at worst He declares that this should be the routine procedure in cases of grave injury of the tibia

**Direct Neurotization of Paralyzed Muscles**—Serra did not find evidence of regeneration, such as others have reported, although the function of the muscles was restored in all but two of the twenty-two rabbits They were under observation for periods up to 136 days The entire external popliteal nerve or merely half of it was switched to the gastrocnemius muscle, restoring physiologic conditions so far as electric tests, myograms and preparations of the muscle and nerve were concerned, but the muscle always looked different from its sound mate in color, size, consistency and weight The results were equally favorable when he used an autograft of nerve or a homogenous graft as a free implant to bridge the gap between the nerve and the muscle This technic enlarges the sphere of the method of direct neurotization of a paralyzed muscle or of two muscles

## Archivos Latino-Amer de Pediatría, Buenos Aires

18 65-128 (Feb) 1924

*Epilepsy in Children A Garcia —p 65
*Acute Meningitic Syndromes A Casaubón —p 84

**Epilepsy in Children**—Garcia states that in 30 per cent of the epileptics he has encountered in hospital practice there was a history of convulsions in early childhood The proportion was even larger in private practice He agrees with those who regard epilepsy as always the result of some organic lesion of the brain As Lasegue says, "The brain has lost its virginity" Intoxications, infections, birth injuries, syphilis may be the primary cause or the secondary inciting cause, and convulsions in a child call for thorough study of the case to remove these factors to the utmost possible

**Serous Meningitis in Children**—Casaubon asserts that what is generally called "meningeal reactions" is in fact an acute meningitic syndrome, although the cerebrospinal fluid may be normal Tuberculosis and syphilis are often predisposing factors, although too attenuated to induce the classic meningitis In the purely serous form, the symptoms of intracranial hypertension predominate, tenacious headache, fundus changes and vomiting, while the Kernig sign and rigidity are absent Lumbar puncture and treatment as for syphilis should be thought of first

## Archiv fur Gynakologie, Berlin

121 363-638 (March 20) 1924

*Testing the Virulence of Streptococci C Ruge II —p 363
Latent Infection and Obstetric Management Heidler —p 429
Results in Five Hundred Genital Carcinomas J Schulte —p 446
*Does Hemophilia Exist in Woman? Bauer and Wehefritz —p 462
Mechanical Aspects of Childbirth A Mueller —p 502
Terminal Loss of Weight in the Pregnant W Kemper —p 604
The Metabolism During Pregnancy A Mahnert —p 620
*Protein Rich Food in Pregnancy G Kaboth —p 631

**Testing the Virulence of Streptococci**—Ruge describes his microscopic method which gives reliable findings in three or four hours as to the prognosis in obstetric work The clinical course has almost invariably confirmed the prognosis based on the findings when 0.5 c.c. of the woman's own defibrinated blood was inoculated with two or three loops of secretion from the vagina or uterus If the secretion presents a milky, crumbly appearance and has an acid reaction, we can usually count on a pure culture of Doderlein's vaginal bacilli and the absence of cocci If examination of a stained smear confirms this assumption, no further testing of the secretion is required and the prognosis for the course of the puerperium is favorable Otherwise, a loopful of the mixture of blood and secretion on an object glass covered with a slide and immediately protected with wax, is put under the microscope in the incubator, and examined frequently to determine the behavior of the bacteria and the leukocytes Smear preparations (stained with methylene blue) of the blood-secretion mixture serve to confirm and control the direct microscopic observation and to establish the increase or diminution of bacteria and of phagocytosis On the basis of this microscopic test of virulence, an unfavorable prognosis was reached in the cases of twenty-six women, and fourteen in this group died from puerperal infection, while in three further cases a moderately severe and in eight cases an exceedingly grave puerperal infection resulted In only one case was there smooth recovery

**Does Hemophilia Exist in Woman?**—Bauer and Wehefritz conclude from their investigations that in the light of our present knowledge hemophilia in woman must be denied The clinical picture that simulates hemophilia in the female, essential thrombopenia, appears from recent experiences to be curable

**Effect of Protein-Rich Food on the Pregnant Organism**—Kaboth reports as the results of his investigations, including the testing of urea formation, that even intensive ingestion of proteins by the pregnant causes no disturbance of the principal function of protein metabolism. An injurious effect of protein-rich food on the physical well-being of the pregnant is not demonstrable, provided the intake of carbohydrates is not markedly reduced.

## Beitrage zur klinischen Chirurgie, Tubingen

**131** 261-488, 1924

*Multilocular Hydatid Disease of the Liver. A. Lawen.—p. 261
*Renal Tuberculosis. L. Heidrich.—p. 268
Sacralization of Lumbar Vertebra. M. P. Schüller.—p. 281
*Spontaneous Healing of Sarcoma. E. Cordes.—p. 301
*Exophthalmic Goiter. Bittorf.—p. 317. Idem. Melchior.—p. 331
*Traumatic Injury of the Thyroid. B. Schwoerer.—p. 350
Dislocation or Hemorrhage in or Around a Goiter. Idem.—p. 359
Spontaneous Hemorrhage in a Goiter. Idem.—p. 362
*Operations for Intestinal Parasites. A. Dieckmann.—p. 373
Is Embolism a Factor in Loose Bodies in Joints? Axhausen.—p. 386
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Origin of Cholangitis and Cholecystitis. H. Bolt et al.—p. 420
Idiopathic Cyst in Common Bile Duct. F. Neugebauer.—p. 448
Tardy Injury from Roentgen Rays. H. Rahm.—p. 456
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General Anesthesia. V. Dumpert.—p. 478
Internal Incarceration of the Bowel After Gastro-Enterostomy. E. Steden.—p. 486

**Resection of Liver**—The multilocular hydatid cyst required resection of a portion of the liver 12 by 6 by 8 cm. in size. The diagnosis had been cancer of the liver or gallbladder, and the gallbladder was removed at the operation as it contained calculi and the tumor encroached on it. The man, aged 42, has entirely recovered.

**Operative Treatment of Renal Tuberculosis**—Thirty-seven of the 110 cases were given conservative treatment and 16 soon died, 75 per cent. of the remaining 21 are great sufferers from manifestations from the kidneys or bladder. Of the 73 operative cases, 36 have been traced to date, all completely or almost completely cured, the interval since from one to fifteen years. About 8.2 per cent. died in a few days after the operation, and 22.8 per cent. since, generally from the progress of other tuberculous lesions. The loss of one kidney does not seem to weaken the subject, one of the nephrectomized served at the front during the war. But the danger of involvement of the other kidney is greater than hitherto supposed. Not less than a third of the deaths since were from tuberculous processes in the other kidney. However, 45 per cent. complete recoveries tells the story of the efficacy of nephrectomy in such cases.

**Sacralization of Lumbar Vertebra**—Schuller's analysis of a number of cases of pain ascribed to pressure on nerves from deformity of the fifth lumbar vertebra, has convinced him that ordinary sciatica or lumbago is responsible for the pain. The developmental defect is merely a casual coincidence.

**Spontaneous Subsidence of Sarcoma**—Cordes resected supposedly completely a small-cell sarcoma in the superior wall of the bladder of a woman, aged 33. Six months later the cystoscope showed recurrence of the tumor, as large as at the first operation. Electrocoagulation was cautiously applied and six months later the aspect was nearly the same, the tumor rather smaller than before, the general health excellent. The sarcoma removed at the first operation showed a tendency to hyalinized connective tissue and cyst formation toward the center, and this transformation has evidently continued, as a kind of spontaneous healing process, confirmed by the absence of necrosis or cellular infiltration to date.

**Exophthalmic Goiter**—Bittorf has witnessed the development of typical exophthalmic goiter in a previously healthy person after a fright from the attack of a fierce dog. Glandular changes outside of the thyroid are frequently but not constantly found and they are not restricted to any special gland. He declares that when internal treatment fails, the earlier operative treatment is applied the better, except in the hyperthyroidism of puberty, acute exophthalmic goiter and ordinary goiter with a few hyperthyroidism symptoms. All these may recover spontaneously, or under roentgen-ray treatment.

Melchior analyzes 153 operative cases. In the last 115, the mortality was 12 per cent. and in all these fatal cases the prognosis had been grave from the first on account of complicating diabetes or other cause. No connection between the extent of the operation and the fatal outcome was apparent. Of the sixty-one cases traced to date, 80 per cent. have regained full earning capacity. In the twelve cases in which the benefit at first did not persist, the operation had been only partial hemithyroidectomy. The best results were always obtained in the cases with bilateral resection of the thyroid with ligation of the four main arteries.

**Injury of the Thyroid**—A stab wound in three and a gunshot wound in seven cases were all given prompt operative treatment, with recovery of all but one senile patient.

**Spontaneous Hemorrhage in a Goiter**—Schwoerer gives the details of eighteen cases of this kind among 2,500 patients with goiter at Karlsruhe since 1906. All but four were women or girls. The symptoms were from suffocation as the trachea was compressed by the hematoma, and 27.7 per cent. of the cases terminated fatally.

**Operations for Helminthiasis**—In the first of Dieckmann's sixteen cases the hemorrhages from the bowel for weeks and the emaciation were explained by the constant finding of *Trichocephalus dispar* in the stools. The ileum and ascending colon were crowded with these parasites, completely filling a 2 liter dish as they were scooped out. The man, aged 46, did not long survive as thrombosis of the inferior vena cava and kidney veins continued to progress.

**Tardy Ulceration After Radiotherapy**—Rahm states that since the introduction of deep roentgen-ray treatment, ulceration developing months afterward has become more common, while roentgen dermatitis and roentgen cancer belong to a past epoch. He has encountered in the last year twelve cases of tardy ulceration after deep exposures. In his cases the treatment had been for tuberculous processes in the majority, with four week intervals. It seemed to be immaterial whether the full skin dose had been given several times or only 50 or 60 per cent. of the skin dose. The interval before the ulceration developed ranged from six weeks to two and a half years. An intercurrent injury (croton oil, suppuration of the skin entailing maceration, application of iodin) had evidently aided in reducing the normal resistance of the tissues in a few of the cases. Early excision of the ulcerating area, with skin grafting, cured the condition in some. In two cases the ulcer healed after periarterial sympathectomy of the femoral or brachial artery, but the favorable result was not permanent. His conclusions are that with the full skin dose there should be an interval of at least three months before the next exposure, and of six months between the second and third. He now uses much smaller doses in treating tuberculous processes, not over 33 per cent. of the skin dose on the skin and for tuberculous peritonitis much less than this. For skin lesions he uses only 50 per cent. of the skin dose and at six weeks' intervals. More than eight exposures should not be given, or at least an interval of six months should be allowed before resumption. With these precautions he thinks there need be no fear of tardy injury.

## Deutsche medizinische Wochenschrift, Leipzig

**50** 425-486 (April 11) 1924

*Present Tendencies in Gynecology. W. Liepmann.—p. 453
*Anatomy of Vasomotor Neuroses. M. Staemmler.—p. 457
Simultaneous Hemolytic Crises in a Family. A. Beutler.—p. 459
Phlorizin in Liver Disease. E. Schilling and K. Grobel.—p. 460
*Colloidal Gold Reaction. E. Bloch and H. Biberfeld.—p. 461
*Paroxysmal Pains with Oxaluria. E. Bernheim.—p. 462
Bile Duct Fistula and Psychosis. H. Boeminghaus.—p. 463
*Diagnosis of Pernicious Malaria. B. A. Photakis.—p. 465
Treatment of Wound Infections. Fessler.—p. 465
Gonococcus Sepsis. E. Wiener.—p. 468
Injury of Inferior Epigastric Artery. S. Cohn.—p. 469
Intracranial Callus. Buttersack.—p. 469
Sensitization of Paralyzed Nerves. E. Grünbaum.—p. 470
Recent Progress in Psychiatry. Bostroem.—p. 471
*Statistics on Weight of Infants. Kletz.—p. 473
The Proposed Social Legislation in France. Prinzing.—p. 473
*Immunization Against Diphtheria. H. Dold.—p. 477
Action of Lipoids in Serodiagnosis. F. Klopstock.—p. 477

**Present Tendencies of Gynecologic Treatment**—According to Liepmann's opinion, obstetric intervention before Semmelweis' discovery constituted rather an injury than a help. At present there are still many instances of unnecessary or harmful operations, such as the forceps applied without real indications, version with hypertonic uterus, or version or perforation of a dead fetus in the absence of indications on the part of the mother. Compression of the aorta in postpartum hemorrhage, painless delivery, and cesarean section in placenta praevia represent great progress. The importance of treatment of abortions is evident when we consider that there are about half a million abortions every year in Germany. The gynecologist should not be merely a physician of the genital organs. Recognition of the feminine pansexualism, realization of the universal tendency of women to transfer psychic anomalies into the sexual sphere and feel them as localized genital pain, and the discovery of psychanalysis are changing the whole gynecologic therapy. The local maltreatment of such patients with repeated cauterizations of the cervix and other local procedures aggravates their condition.

**Anatomy of Vasomotor Neuroses**—Stroemmler found degeneration and inflammatory changes in the cervical sympathetic ganglions in several cases of vasomotor neuroses such as Raynaud's disease, angina pectoris, Quincke's edema and hemiatrophy of the face.

**Colloidal Gold Reaction**—Bloch and Biberfeld believe that the electric charge of the colloids of the cerebrospinal fluid causes the differences in the colloidal gold reaction in various diseases.

**Paroxysmal Pains with Oxaluria**—Bernheim observed three neuropaths with recurring attacks resembling those of typical nephrolithiasis. No stones were found, but the urine contained a large amount of oxalates. The patients recovered after an appropriate diet.

**Diagnosis of Pernicious Malaria**—Photakis considers a chocolate or blackish color of the bone marrow a very characteristic sign of acute malaria.

**Statistics on Weight of Infants**—Klotz compares the weight of infants born in Lubeck in 1913, 1914, 1919 and 1920, using only first children, and the weights at the end of the fourth and twelfth weeks. The weights of the legitimate children were the same before and after the war. The illegitimate children, who were at a disadvantage even before the war, averaged still worse in 1920.

**Toxin-Antitoxin Immunization Against Diphtheria**—Dold emphasizes the sometimes forgotten fact that Behring proposed in 1913 the toxin-antitoxin method of immunization against diphtheria.

## Deutsche Zeitschrift fur Chirurgie, Leipzig

184 145 288 (March) 1924

Treatment of Echinococcus of the Liver F Partsch—p 145
Intermittent Manifestations Resembling Coxitis, with Recurrent Periodical Vomiting (Acetonemia) D Engel—p 181
*Treatment with Own Blood Vorschutz and Tenckhoff—p 200
*Cancer Metastasis in the Parathyroids Dieterich—p 208
Surgical Anatomy of Blood Vessels of Liver Melnikoff—p 216

**Treatment with Own Blood**—Vorschutz and Tenckhoff describe the extreme precautions taken in the St Joseph Hospital, Elberfeld, to prevent patients taking cold during the first few hours after operation. In spite of this, in 17 per cent of all operative cases lung manifestations, with fever, and in nearly 2 per cent pneumonia occur. Since the middle of 1921, own blood treatment has been used in these cases with astonishing success. Intramuscular injections of from 30 to 80 c c of own blood were given as soon as high fever appeared. The symptoms are overcome with surprising rapidity if the treatment is given the first day of the illness. If the fever keeps up, they use it morning and evening of the following day, but can then count on defervescence.

**Cancer Metastasis in the Parathyroid Glands**—Dieterich points out that in many cases of carcinoma, metastases in the parathyroids may be expected. Besides carcinoma of the breast and the bronchi, esophageal cancer is liable to involve the parathyroid glands. In one case tumor cells were found in the blood vessels of the parathyroids.

## Klinische Wochenschrift, Berlin

3 561 608 (April 1) 1924

*Action of Roentgen Rays on Growing Organisms F C Geller—p 561
*Transmission of Allergy in Bacilli A Schnabel—p 566
*Small Intestine and Pernicious Anemia R Seyderhelm—p 568
*Peptic Digestion H Klemmann and K Asada—p 572
*Sugar Metabolism During Menstruation R Heilig—p 576
*Treatment of Congenital Syphilis K Italiener—p 577
Meinicke's Turbidity Reaction W Schultze—p 580
*Extrahepatic Action of Insulin E Frank et al—p 581
Pollen Anaphylaxis in Guinea Pigs M E Alexander—p 583
*Lead Poisoning S Seelig—p 583
Treatment of Cancer of Breast H Jarre—p 584
Bilirubin Production and Jaundice E Bock—p 587

**Action of Roentgen Rays on Growing Organisms**—Geller produced in rabbits, 12 to 15 weeks old, a genital hypoplasia and inhibition of growth by exposing the pituitary gland to roentgen rays. Irradiation of the thighs inhibited the growth but had no influence on the sex organs. A weak irradiation of the ovary caused in young rabbits an increased development of the uterus, increased weight, and inhibition of the growth in length.

**Transmission of Allergy in Bacilli**—Schnabel cultivated pneumococci in mediums containing ethylhydrocuprein, and colon bacilli with mercuric chlorid, until he obtained comparatively resistant strains. When adding filtrates from cultures of such strains to the original culture, it also became resistant to the agent.

**Small Intestine and Pernicious Anemia**—Seyderhelm observed in ten pernicious anemia patients with an artificial anus, a putrefactive content of the duodenum. The bacilli corresponded also to the flora of the colon. The contents changed in four of these patients together with a marked improvement of the general condition. Closing of the anus was followed by a rapid impairment of the condition. He is convinced that the invasion of the constitutionally defective small intestine by the bacilli from the colon (where they are harmless) causes resorption of toxins, and the anemia.

**Peptic Digestion**—Klemmann and Asada describe their method of controlling the peptic digestion. Nephelometry was used for the determination of the protein concentration.

**Sugar Metabolism During Menstruation**—Heilig gave women 100 gm. of saccharose on the first and second day of menstruation. The majority reacted with a marked hyperglycemia and subsequent glycosuria.

**Treatment of Congenital Syphilis**—Italiener emphasizes the fact that infants require and tolerate relatively more arsphenamin than adults. She injects by the vein once a week in the first 2 years of age, 0.03 gm. neo-arsphenamin per kilogram of body weight. Intramuscular injections of 0.001 gm. of calomel per kilogram are also given (or daily inunction of 0.1 gm. mercurial ointment per kilogram). The treatment lasts for twelve weeks and is repeated three months later. Two more courses are necessary after the Wassermann reaction has become negative. She reports a negative Wassermann reaction after one course in one entire group of eighteen infants.

**Extrahepatic Action of Insulin**—Frank, Nothmann and Wagner injected insulin into the femoral artery of rabbits. They found a marked difference between the sugar content of the blood of the femoral vein and the blood in the left ventricle. They estimate that the extremity took up 50 mg. of sugar out of 100 c c of the circulating blood (against 4 mg. without insulin).

**Lead Poisoning**—Seelig reports a case of chronic lead polyneuritis in a cook who for two years had used constantly a spoon in which lead had been melted. She had 70 per cent of eosinophils but no basophilic stippling. She recovered completely.

3 609 656 (April 8) 1924

Multiple Sclerosis E Siemerling—p 609
*Insulin and Metabolism E Gabbe—p 612
*Contents of Fasting Stomach W Weitz and H Fischer—p 613
*Beginning Milk Secretion I Heckmann and E Opitz—p 616
*Action of Opium on Plain Muscle G Ganter—p 617
Comparison of Insulin Preparations F Depisch et al—p 619
*Raw Fruit Treatment F Mendel—p 624
*Arsphenamin Injuries A M v Werthern—p 627
*Action of Serum on Cell Respiration S M Neuschlosz—p 628
*Conservation of Blood Cells H Dold—p 629

Fibroid of Pregnant Uterus in Umbilical Hernia E Riedel—p 630
Paralysis of Cervical Sympathetic E Neter—p 631
Radical Treatment of Fractures M v Brunn—p 631
*History of Smallpox Vaccination H A Gins—p 634
Bilirubin Formation and Jaundice Bock—p 638 Conc n

**Insulin and Metabolism**—Gabbe investigated the action of insulin on the respiratory metabolism in rats The oxygen consumption was lowered, but this does not disprove an increased oxidation of carbohydrates because the respiratory quotient increased, especially before the onset of toxic symptoms From the third to the fifth hour after the injection the quotient was lowered again It is possible that this was not secondary, but due to a direct action of small doses of insulin The oxygen consumption was higher in this period than before the experiment

**Contents of Fasting Stomach**—Weitz and Fischer studied the contents of the fasting stomach on themselves and on six healthy students The stomach contents were aspirated with a duodenal tube immediately after waking up and again after a cold shower In the first case there was only about 10 c c of a very slightly acid fluid, without any free hydrochloric acid After the cold shower, the secretion increased and contained free hydrochloric acid Some of these subjects had no feeling of hunger at the time

**The Beginning of Milk Secretion**—Opitz induced Heckmann to study the cause of the swelling and redness of the breasts on the third to the fifth day after delivery It is present in 75 per cent of the women, and causes discomfort in almost 14 per cent of them She found nothing to support the popular belief that it is the beginning of a stronger secretion of milk It seems that the change of secretion of colostrum to that of milk has some connection with it Slight increases in temperature up to 38 C may occur

**Action of Opium on Plain Muscle**—Ganter found that an injection of the mixed alkaloids of opium increases the tonus of the intestine and colon in cats, but decreases the irritability This accounts for its action, which resembles spastic constipation Stimulation of the parasympathetic system, for example with pilocarpin, increased both the tonus and the irritability Paralyzing the parasympathetic, as with atropin, decreased both The alkaloids of opium act in the opposite way on tonus and irritability, and also diminish the blood supply He believes that their point of action is in the unstriated muscles One drop of a 1 per cent morphin solution produces the typical accommodation spasm in an eye previously treated with atropin This speaks for a direct action on Muller's muscle The pupil does not change much because both the sphincter and the dilator are affected

**Systematic Fruit Courses in Treatment**—Mendel orders 1 kilogram of raw fruits (apples, pears, etc ) daily for three days instead of the Karell course of treatment This fruit diet furnishes about 600 calories, and contains practically no sodium chlorid and little protein He witnessed excellent results from it in broken compensation, nephritic and other edemas, hypertension, diabetic acidosis, obesity, and in attacks of gout Raw fruits are more effectual than cooked fruits

**Arsphenamin Injuries**—Werthern describes a gangrene of the hand in a patient with beginning multiple sclerosis or encephalomyelitis, who had been treated with silverarsphenamin No thrombosis was found She attributes the gangrene to a spasm of the blood vessels, although a periarterial sympathectomy failed to help

**Action of Serum on Cell Respiration**—Neuschlosz studied the action of human serum on the in vitro reduction of metanitrobenzene by rats' muscles Normal human serum did not influence it (except in pregnancy and cachectic conditions) Serum from patients with malignant tumors notably increased the reduction

**Conservation of Blood Cells**—Dold found that various blood cells and organ cells keep best in serum Leukocytes take stains well even after eight days

**History of Smallpox Vaccination**—Gins has been examining some old reports on vaccination for the years 1810-1858 He found that the humanized lymph became weakened by the frequent passages from man to man and protected only insufficiently A highly virulent vaccine is necessary for protection

## Medizinische Klinik, Berlin

**20** 475 510 (April 13) 1924

Economy in Treatment Jadassohn—p 475
*Sympathectomy in Angina Pectoris and Asthma F Glaser—p 477
Vaccine Treatment of Abscesses in Axilla G Duttmann—p 479
Periarteritic Contracted Kidney L Hess—p 480
*Gastric and Duodenal Ulcers K Isaac Krieger—p 482
*Roentgen Ray Treatment of Chilblains F Kroll—p 485
Treatment with Sulpharsphenamin J Fabry—p 486
Undernourishment in Mountain District Ringelhan—p 487
Mucus Secretion in Cervix of New Born W Freundlich—p 489
*Action of Rays in Body F Dessauer—p 490
Practical Gynecology E Runge—p 494 Cont n
The Quartz Lamp in Pediatrics B Weltring—p 497
The State and the Family R Fetscher—p 507

**Sympathectomy in Angina Pectoris and Asthma**—Glaser explains the results of sympathectomy in angina pectoris by the supposition that the sympathetic contains centripetal fibers Resection of the depressor nerve in aortalgia acts in a similar way

**Surgical Treatment of Gastric and Duodenal Ulcers**—Without intending to warn against surgical treatment, Isaac Krieger demonstrates with seventeen patients that the results of operative measures must not be overestimated An ulcer is not merely a local affection, and the uncomplicated simple ulcers should be treated only internally

**Roentgen-Ray Treatment of Chilblains**—Kroll had good results with roentgen-ray treatment of seventeen patients with chilblains The severe forms were especially well influenced

**Action of Rays in Body**—Dessauer explains the destructive action of roentgen rays as a change of their absorbed energy into molecular movement (heat) This increase in temperature is extremely minute if distributed over a large area When it acts on the very small mass of a molecule, it is considerable He calls this assumption the *punktwarme hypothese*

## Mitteil a d Grenzgeb d Med und Chir, Jena

**37** 145 262 1924

*Resorption of Fat Through Biliary Epithelium Kusnetzowsky—p 145
*Periarterial Sympathectomy J Hohlbaum—p 163
*Obliteration of Portal Vein P Kuhr—p 177
After Effects of Intraspinal Anesthesia H Strecker—p 190
*Splenectomy in Hemophilia E Wild—p 201
*Spastic Conditions in Intestines W Korte—p 211
*Hemorrhages from Compression of Trunk H Kunz—p 235
Bacteriology and Pathology of Surgical Affections of the Biliary Passages W Gundermann—p 243

**Resorption and Elimination of Fat by the Epithelium of the Biliary Passages**—Kusnetzowsky's experiments on rabbits confirmed the possibility of resorption only when the common bile duct had been ligated

**Periarterial Sympathectomy**—This communication from Payr's service gives a long list of pathologic conditions in which Leriche's technic has given remarkable results Payr has even applied it recently in a case of growth disturbance following poliomyelitis Hohlbaum states that it has completely failed in certain cases of vasomotor disturbances after injury of nerves, in some cases of malum perforans, and in Raynaud's disease, and it scarcely ever succeeds in treatment of arteriosclerosis To date, no mishaps have occurred with it except that Matons alone has reported a case in which the artery tore a week after the sympathectomy on the external iliac The patient died from the hemorrhage, the tear was 1 to 1 5 cm wide Seifert has observed two cases in which gangrene developed later or a bed-sore

**Obliteration of the Portal Vein**—Kuhr has encountered two cases of this condition, and compares the necropsy findings with those on record Syphilis is a frequent factor

**Splenectomy in the Hemorrhagic Diathesis**—In Wild's case, spontaneous rupture of the spleen compelled splenectomy, and after this there were no further disturbances from the grave hemophilia diathesis The patient was a boy of 15 This is the sixth case on record of the cure of hemophilia after splenectomy Transfusion of blood and serum has only a comparatively brief action, but it may improve conditions enough to render splenectomy possible When this displays any influence, the effect seems to be durable

**Enterospasm**—Körte gives the details of twenty-eight cases of ileus from spasm of the bowel In five of the cases, the

spastic occlusion of the small intestine followed gastro-enterostomy The difficulty is to determine whether spasm or mechanical obstruction of the intestines is involved An exploratory laparotomy is the only means to decide the question, as a rule

**Hemorrhages from Compression of the Trunk**—The previously healthy man had the trunk squeezed down by an elevator he was repairing The severe and profuse stasis hemorrhages evidently developed inside the skull as well as in the skin Kunz relieved by lumbar puncture all the symptoms indicating intracranial hypertension The last trace of the paralysis had subsided by the end of the third month

**37** 263-384, 1924

*Duodenal Intubation in Typhoid Brinkmann and Hage—p 263
*Familial Hemolytic Jaundice H Hattesen—p 293
The Intraperitoneal Pressure H Wildegans—p 308
Pressure Relations in Cerebrospinal Fluid E Becher—p 325
*Gonococcus Arthritis and Its Treatment J Borak—p 333
Mediastinal Emphysema After Strumectomy E Gold—p 352
Differential Diagnosis of Tumor and Gallstone Neumuller—p 363
Postoperative Obstruction of Intestine K Heudorfer—p 372

**Duodenal Intubation for Typhoid Carriers**—Brinkmann and Hage expatiate on the instructive findings with the duodenal tube after ingestion or injection of milk or peptone in bacilli carriers They analyze the responses in sixty-one persons with active typhoid or paratyphoid or botulism, or in mere typhoid carriers Typhoid bacilli were found in the blood during the incubation period in some cases, and this suggests possible entrance by way of the tonsils

**Familial Hemolytic Jaundice**—Hattesen brings down to date the history of the Roschmann family The father and six of the members of his family had hemolytic jaundice, and splenectomy arrested it completely in all Recent re-examination of this family showed that eleven of the twenty-six members of three generations of the family presented the familial taint The splenectomy in the mother did not prevent the development of the hemolytic jaundice in the child born nine years later in one instance In another case the child has been free from it to date although the splenectomy had been done during the pregnancy Hemolytic jaundice can be transmitted by either sex to either sex The results of splenectomy point to the spleen as the organ responsible for the hemolytic tendency and indirectly for the jaundice The splenectomy removes at one stroke the greater part of the reticulo-endothelial apparatus

***Gonococcus Arthritis***—Borak emphasizes the importance of roentgenoscopy in the diagnosis and as guide for treatment in gonococcus arthritis The arthritis may be only arthralgic, or there may be effusion, or hardening, or an actual phlegmon The arthralgic type needs heat, the effusion needs puncture and a compressing dressing, while the indurative type calls for intra-articular injection of an anesthetic and the phlegmonous type requires measures to combat the inflammation All require movements in treatment (electricity, massage) with stasis hyperemia and vaccine therapy

## Monatsschrift fur Geb und Gynakologie, Berlin

**65** 321-378 (March) 1924

*Anemia from Pregnancy Intoxication G H Schneider—p 321
*Examination of the Pregnant from Without E Poeck—p 327
*Abdominal Sterilization Rosenstein—p 335
*Hemolyzed Own Blood Given by Vein Brunner and Breuer—p 341
*Visual Impairment After Genital Hemorrhage E Puppel—p 351
Pregnancy After Bilateral Adnexitis J Stroecker—p 359
Malignant Hemangio-Endothelioma in the Uterus P Schugt—p 363
"Roentgen Ray Injury of Offspring" Nurnberger—p 369

**Anemia from Pregnancy Intoxication**—The woman of 41 had two healthy children but developed hemolytic anemia of such a severe type at the third pregnancy that it had to be interrupted *at the eighth month* From 40 per cent hemoglobin and 1,920,000 erythrocytes the day of the artificial delivery, the figures rose to 40 and 2,100,000 the third day, and to 60 and 4,200,000 by the tenth day

**Examination of the Pregnant from Without**—Poeck states that in 200 pregnant women he was able to determine the position of the fetus by the fluctuation in 88 per cent and by Ahlfeld's maneuver in 78 per cent, by palpation in 85 per cent, by the curve of the back in 90 per cent, and by the heart sounds in 94 per cent

**Interruption of the Pregnancy and Sterilization Through Abdominal Incision**—Rosenstein prefers the Liepmann method for sterilization by resecting and ligating the tubes, but he makes a point of turning the end of each tube back on itself, and applying the ligature near the tip of the turned-back portion, and including in the ligature the main portion of the tube This shuts out both spermatozoa and ova, and reverses the course in case any should happen to get past the barrier

**Protein Therapy with Hemolyzed Own Blood**—Into a 20 c.c. syringe is drawn about 14 c.c. of distilled water, and then blood is aspirated into the syringe to its capacity Without drawing the needle out of the vein, the blood and distilled water are mixed by twisting the syringe around its longitudinal axis Then the mixture is reinjected The products from the disintegration of the corpuscles seem to have an influence on certain organs, probably by way of the involuntary nervous system The effect is much like that from other methods of parenteral protein therapy but the authors state that it surpasses them in the simplicity of the technic They have applied it with good effect in adnexitis, ovarian hemorrhage, anemic conditions and pregnancy dermatoses, *inflammatory infiltrates*, furunculosis and joint effusions

**Impairment of Vision After Genital Hemorrhage**—Puppel adds two more to the 300 cases on record of blindness after excessive genital losses of blood He warns that treatment must be applied without delay as the visual disturbances rapidly become irreparable unless the hemorrhages are arrested He declares that the best means for this is the removal of the bleeding uterus, reinfusing the woman's own blood at need There is no time to wait for the hemostatic effect of the roentgen rays, and the acute toxic action from the rays—the *roentgenkater*—might prove disastrous under the circumstances

## Munchener medizinische Wochenschrift, Munich

**71** 423-458 (April 4) 1924

*Spastic Constipation K Hannemann—p 423
*Anesthesia by Iontophoresis F Wirz—p 425
Goat's Milk Injurious for Sucking Other Animals Stadelmann—p 426
Permeability of Skin for Light F Bernhard—p 427
Swelling of Intestinal Lymph Follicles in Leptospira Infection W H Hoffmann—p 428
Adsorption of Mercuric Chlorid Rakusin and Nesmejanow—p 429
*Research on Stomach Contents Barsony and v Friedrich—p 430
Position for Duodenoscopy W Sternberg—p 431
*Exclusion of Two-Thirds of Small Intestine N Zeltner—p 432
Coincidence of Epidemic Meningitis and Typhoid Ernst—p 432
"Molecular Pathology of Inflammation" H. Schade—p 433
"Intra Uterine Treatment" M Nassauer—p 434
Castration Versus Extirpation of the Uterus" E Opitz—p 435
*Eclampsia Series Without a Death from the Eclampsia Stroganoff—p 436
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To Reduce Expense of Prostheses R Purckhauer—p 440
Medicolegal Aspect of Sterilization of the Unfit Schiedermair—p 443

**Differential Diagnosis of Spastic Constipation**—Hannemann presents arguments to show that a neurotic over-excitability is the primary factor in spastic constipation Psychotherapy is the rational treatment, and has proved astonishingly successful in his hands He has returned to the method of simple suggestion as published by Bernheim in 1892 and Forel in 1911, and only exceptionally resorts to hypnosis, catharsis or psychoanalysis methods In case of doubt as to the exact nature of the constipation, whether atony or spasm is the predominating factor, an adductor sign he describes turns the scale He lifts with both hands one leg of the reclining patient, flexes the leg, and tries to abduct it, telling the patient to relax his muscles There is no resistance in normal subjects, but almost invariably in the spastic constipation cases the adductors are contracted so that abduction is almost impossible In some cases the foot of the other, the horizontal leg, spontaneously twists inward at the same time This adductor sign indicates extreme motor excitability which includes the intestines, readily explaining the spastic constipation, and the benefit from treatment of the neurotic predisposition The same method of treatment has proved remarkably successful in other con

ditions in which neurotic-functional influences are at work, as for instance, Heyer's success in curing gastroptosis with psychotherapy He describes a few typical cases, saying that spastic constipation is encountered in men almost as often as in women The intensity of the adductor sign is a gage of the severity of the spastic condition in the bowels, and it subsides parallel to the subsidence of the clinical and roentgen-ray findings typical of spastic constipation

**Anesthesia by Iontophoresis**—Wirz states that the iontophoresis technic is particularly useful for children, as they shrink from needle pricks It does away further with the danger of introducing germs with the needle, and the blood is expelled from the region more completely than with infiltration anesthesia The main field for the iontophoresis method is in cosmetic operations, especially plastic operations, and in removing small lupus patches

**The Duodenal Tube for Examination of the Stomach**—Barsony noted that the spine divides the stomach into two parts as the subject lies on his back It is possible to aspirate separately the contents of each of these parts, and study the fundus and the antrum contents separately

**Multiple Stenosis of Small Intestine**—Twelve strictures were found between the ileocecal valve and a point 200 cm below the duodenum This segment was excluded leaving 2 m of small intestine for function The woman of 32 has been free from all disturbances during the months since

**Prophylactic Treatment of Eclampsia**—Stroganoff reiterates the harmlessness and efficacy of his morphin, chloral and chloroform method of treating eclampsia, saying that there have been only five deaths in his 246 cases of eclampsia, and two in this group of five fatal cases had been run over by a street car and one succumbed to intercurrent pneumonia The other two were practically moribund when first seen He insists that the prognosis is absolutely favorable in the nonneglected cases The mortality of the children in the 246 cases was 13 per cent but preceding operations, exposure to cold or premature delivery was responsible for 8 per cent of this fetal mortality His technic has been repeatedly described in THE JOURNAL as for instance Feb 12, 1916, p 530 His main reliance is on the chloral, he gives only from 0 02 to 0 04 gm of morphin in the course of twenty-four hours

## Wiener Archiv fur innere Medizin, Vienna

8 1 184 (April 1) 1924

Sinus Arrhythmia After Correction of Auricular Fibrillation K F Wenckebach and H Winterberg—p 1
*Insulin Treatment of Diabetes W Falta et al—p 13
Leukemic Leukolysis P Szilard—p 33
Roentgen Ray Treatment of Leukemia P Szilard—p 41
Ectoscopy E Weisz—p 49
Orthopercussion I Revai—p 103
Pathogenesis of Nephritic Edema M Georgopoulos—p 115
Parasystolia D Scherf—p 155

**Insulin Treatment of Diabetes**—Falta, Depisch and Hogler had to use larger doses of insulin to check acidosis in patients who were eating more proteins than in those restricted to Petren's diet Diabetics with hypertension and hyperthyroidism were comparatively resistant to the action of insulin They explain the insulin hypoglycemia as due to an increased avidity of the cells (including the liver) for glucose

**Leukemic Leukolysis**—Szilard found a little more active destruction of normal leukocytes by the serum from leukemia patients than with normal serum The leukemic cells were destroyed much more readily than normal cells by any serum used

**Ectoscopy**—Weisz describes in detail and illustrates his various methods for determining the outlines of the lungs and of localized peritoneal affections by simple visual inspection Careful observation of a sniffing patient is sufficient to outline the borders of the lungs

**Orthopercussion**—Revai puts the terminal phalanx of a finger on the area of heart dulness and keeps the rest of the finger at an angle of about 45 degrees to the chest Percussion on the finger continued proximally reveals an absolute dulness somewhere near the first interphalangeal joint When the finger used as plessimeter reaches the margin of the heart, the sound becomes suddenly clear He gives illustrations of the exact technic and comparison of the findings with this method and those of radiologic diagnosis

## Wiener klinische Wochenschrift, Vienna

37 355 380 (April 10) 1924

Immunity and Tuberculosis A Kutschera Aichbergen—p 355
*Glycemia and Diabetes J Pal—p 356
*Lactic Acid in Carcinosis K Glaessner—p 358
*Treatment of Pernicious Anemia J Hickl and N Jagic—p 359
Blood Transfusion in Pernicious Anemia Nather and Hickl—p 369
*Prozone in Agglutination H Chiari and E Loffler—p 361
Resuscitation R Eisenmenger—p 364
Pettenkofer's Letters G Sticker and I Fischer—p 367 Conc'n
Clinical Study of Diuresis R Fleckseder Supplement pp 1 14

**Glycemia and Diabetes**—Pal believes that only free sugar can pass into the urine As far as the diabetic hyperglycemia is due to a bound sugar, it does not cause glycosuria

**Lactic Acid in Carcinosis**—Glaessner found lactic acid in the urine from the majority of cancer patients and from cancer mice after intravenous injections of a glucose solution

**Treatment of Pernicious Anemia**—Hickl, Jagic and Nather recommend large weekly blood transfusions in pernicious anemia

**The Prozone in Agglutination**—Chiari and Loffler have been investigating the mechanism of the inhibition of agglutination of bacilli by strong concentrations of fresh serum which have an agglutinating action when diluted Only the visible agglutination is inhibited, not the binding of the agglutinin to the germs They confirm van Loghem's observations on the importance of the complement for the phenomenon

37 381 406 (April 17) 1924

Inflammation of the Labyrinth F Ruttin—p 381
*The Blood After Operations L Schonbauer and G Eichelter—p 384
Constitutional Indications for Episiotomy C Bucura—p 387
*Leukocytes in Lymphogranulomatosis J Weiss—p 389
Pemphigoid Exanthem in Uremia Konigstein and Urbach—p 391
*Irradiation of the Spleen in Menorrhagia J Sahler—p 392
*Oculovesical Reflex J Pichler—p 396
The Goiter Question J Wagner Jauregg Supplement, pp 1 14

**The Blood After Operations**—Schonbauer and Eichelter consider the eosinophil count as a finer index of the condition than the count of any other blood cells They use Dunger's diluting fluid (10 parts of a 1 per cent aqueous solution of eosin, 10 parts of acetone, and distilled water to 100 parts) and the usual pipet for the leukocyte count

**Leukocytes in Lymphogranulomatosis**—Weiss considers a decrease in lymphocytes as most characteristic in lymphogranulomatosis Neutrophils and eosinophils may increase in number A leukocytosis exceeding 20,000 warrants the suspicion that the diagnosis was not correct

**Irradiation of the Spleen in Menorrhagia**—Sahler reports the results of irradiation of the spleen in 143 women with menorrhagia or metrorrhagia The immediate results were good in 71 per cent, the remote results only in 36 per cent He confirms Werner's perfect results in his treatment of melena in three new-born infants

**Oculovesical Reflex**—Pichler observed in three patients with deep apoplectic coma, opening of the eyelids of one eye after pressure on the region of the bladder

## Zeitschrift fur Tuberkulose, Leipzig

39 401 466 (March) 1924

*Primary Tuberculosis in Children Ghon and Wintemitz—p 401
*Effect of Phrenicotomy E Lande—p 418
*The Results of Phrenicotomy E Lehmann—p 426
Stains for Tubercle Bacilli M Gutstein—p 436

**Pulmonary Versus Extrapulmonary Tuberculosis in Children**—Ghon discusses the comparative frequency of these two modes of primary infection in infants and children

**Phrenicotomy and the Movements of the Diaphragm**—If immobilizing of one side of the diaphragm be advisable, Lande recommends instead of thoracoplasty the simpler exeresis of the phrenic nerve in the neck She explains that if a piece that is long enough be removed, the intended paralysis of the diaphragm will certainly result The main indication for this procedure is in place of pneumothorax when this latter cannot be realized on account of adhesion of the layers of the pleura

**The Results of Phrenicotomy**—Lehmann states, after reviewing ten cases of phrenic exeresis, that it may prove useful as an adjuvant, but, alone, it has only a modest bearing on the improvement of progressive pulmonary tuberculosis

## Zeitschrift fur Urologie, Leipzig

18 193 256, 1924

*Purpura of the Upper Urinary Tract G Praetorius—p 193
Malformations of Renal Pelvis S Werboff—p 197
Trabeculae in Bladder J Alksnis—p 205
Multiple Primary Cancers N Taschiro—p 209
Physical and Chemical Research on the Kidneys Armbruster—p 212

**Purpura of the Urinary Tract**—Praetorius reports three cases of purpura occurring in the urinary tract, especially in its upper segment This form, heretofore unknown, can be diagnosed by the clinical triad of acute fever, hematuria and ureter colic It must be differentiated from calculi, especially if the bladder is also involved The persistence of the fever with absence of pus in the urine is instructive

## Casopis lekaruv ceskych, Prague

63 581 616 (April 12) 1924

*Primary Tumors of Fallopian Tube G Muller—p 581
*Perimyelography with Iodized Oil B K Prusik and L Volicer—p 586
Ureter Calculi J Rejsek—p 590 Cont'd
*Chemotherapy of Rhinoscleroma V Jindra—p 598 Concn

**Primary Tumors of Fallopian Tube**—Muller publishes photomicrograms of four additional cases of primary cancer of the fallopian tube One of them was a myxofibrosarcoma

**Perimyelography with Iodized Oil**—Prusik and Volicer report their results in the examination of six patients with injections of iodized oil into the subarachnoid space Aside from the by-effects mentioned by the French authors, they observed a slight increase in temperature (rarely over 38 C) Nevertheless, they consider the method as extremely valuable for topical diagnosis

**Chemotherapy of Rhinoscleroma**—Jindra had fair results in treatment of rhinoscleroma with bismuth, fifteen or more injections are necessary

## Nederlandsch Tijdschrift v Geneeskunde, Amsterdam

1 1621 1724 (April 12) 1924

*The Fever at Onset of Malaria P C Korteweg—p 1622
*Acute Bulbar Paralysis S Koster—p 1639
*Unreliability of Urine Findings Under Insulin W Hoogslag—p 1649
Vaccine Treatment by Ponndorf Method J Dekker—p 1651
Hydatidiform Mole R Remmelts—p 1654

**The First Onset of Malaria**—Korteweg has had an unprecedented opportunity to study the onset of malaria as it was observed in sixty-six patients with general paralysis given treatment by inoculation with malaria The malaria parasite *Plasmodium vivax* was never found in the blood until the fifth day, and the interval was longer than this in some, up to the twenty-first day In thirty-six of the cases there was a continuous fever at first, with slight remissions for a few days, until the typical peaks developed With previous infection with malaria, the peaks started from the first

**Acute Bulbar Paralysis**—In the first of Koster's two cases the gradual onset, the low blood pressure and the absence of any cause for embolism confirmed the assumption of endarteritic thrombosis The symptoms localized it in the basilar artery The patient was a man, aged 30, who had contracted syphilis two years before Koster injected 0 9 gm of neo-arsphenamin in two weeks, followed by mercurial treatment and bismuth The tetraplegia was of ten weeks' standing, and the Wassermann test was repeatedly negative The speech improved after the first injection and complete recovery soon followed The special clinical picture with thrombosis of the basilar artery is described, and the necropsy findings in a second case of the kind, with syphilis of six years' standing Treatment of the primary syphilis had been vigorous and prolonged in both cases

**Unreliability of Urine Findings During Insulin Treatment**—Hoogslag warns that the threshold for sugar may be suddenly lowered in diabetics, from some unknown factor, and the sugar content of the urine may thus be high while the blood sugar level may have dropped abnormally low under the influence of insulin or other cause To give more insulin on the basis of the glycosuria alone is dangerous

1 1725 1836 (April 19) 1924

*Six Puzzling Internal Cases Wortman and Goudriaan—p 1726
*Ineffective Antiseptics M A van Herwerden—p 1740
Action of Iron in Anemia Roessingh—p 1743
*Treatment of General Paralysis A Stärcke—p 1751
*Fistula Between Stomach and Colon J F O Huese—p 1754
Congenital Lymphangioma with Secondary Giantism Willemse—p 1755
The Transmissible Diseases Bill P Muntendam—p 1769
A Netherlands Physician in China J W Schotmar—p 1777 Concn
Disability from Accident in Preexisting Disease Brecka—p 1787
Carbon Monoxid Poisoning Kranenburg—p 1794

**Some Puzzling Internal Cases**—In one of the six cases described, a previously healthy woman of 36 suddenly developed coma for which all the usual causes could be excluded Necropsy revealed coagulated blood in the lateral ventricle

**Organic Binding of Antiseptics**—Van Herwerden found that even a 2 per cent mercuric chlorid agar-banana culture medium had no appreciable antiseptic action on the large fly larvae and yeasts tested, while there was no growth on the same culture medium when the banana was omitted

**Treatment of General Paralysis**—Stärcke attacks the disease by inducing fever and then, at the time of the fever, starts vigorous treatment with neo-arsphenamin He assumes that the fever renders the glia filter permeable, and this allows the arsphenamin, and possibly also the natural defensive forces, to reach the brain He induces the fever by an intramuscular injection of boiled milk in the morning, massaging the region, or having the patient run for a few minutes, to promote absorption By evening the temperature rises to 38 5 or 40 C, and when it is at its height, he injects from 0 6 to 0 9 gm of neo-arsphenamin This sends the temperature still higher, if it goes above 40 it is reduced with a cold pack This treatment is repeated weekly, increasing the amount of milk to insure that the temperature goes to 39 C at least He never witnessed any signs of anaphylaxis, and insists that the improvement has been at least fully equal to that realized with malaria treatment

**Spontaneous Healing of Gastro-Intestinal Fistula**—The fistula was seen very plainly with the roentgen rays after a barium contrast suspension had been swallowed The young woman was so weak from the vomiting and diarrhea that the operation was postponed for a day or two, during which she began to improve, and recovered completely No trace of the fistula was apparent two weeks later Huese remarks that the metal salt probably contributed to the healing, even if it did not actually plug the opening

## Acta Medica Scandinavica, Stockholm

60 95 290, 1924

Vaccine Treatment of Typhoid and Paratyphoid V Bie—p 95
Proteolysins in the Blood of the Insane A Bisgaard—p 120
The Arterial Pulse in Pneumonia F Leegaard—p 136
*Surgical Treatment of Pernicious Anemia Walterhöfer and Schramm—p 196
*Metabolism in Psychoses J Norvig—p 211
Anatomic Lesions in Herpes Zoster S Hesser—p 278

**Surgical Treatment of Pernicious Anemia**—Walterhofer and Schramm explain that in eight cases of pernicious anemia they have observed improvement after removal of the marrow of one or more of the long bones (tibia) Since the regenerative stimulus enhances the reacting faculty of the organism to internal medication, this latter should be combined with surgical treatment even when the disease has proved refractory to conservative medication It has been established that the removal of bone marrow is followed by a spontaneous regeneration of normally functioning marrow

**Metabolic Anomalies in Psychoses**—After recording the chemical findings of the metabolism in dementia praecox, general paralysis, Alzheimer's atrophic sclerosis and epilepsy, Norvig states that in true epilepsy there is an increased ammonia percentage in the blood before the seizure and diminished urea content of both blood and urine The condition seems to be traceable to a parathyroid insufficiency, since three patients have shown marked improvement under injections of thyroid and parathyroid extracts, 0 2 cc and 0 8 cc daily

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## THE MORBIDITY OF ENDEMIC GOITER *


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This short study is an attempt to emphasize the fact that all goiters are potentially dangerous and that most of them do, in fact, eventually produce not only symptoms but also definite pathologic lesions

Our knowledge of the physiology and pathology of the thyroid gland has been increasing so rapidly that even with many basic physiologic truths yet to be discovered, we have at hand enough facts to enable us to deal in a fairly satisfactory manner with abnormalities of this gland

There is not at present an entire unanimity of opinion in regard to the classification of goiter, but the differences hinge largely on words rather than on essential facts, and the confusion that does exist is one of nomenclature and not of fundamentals Because of this confusion, it will be advisable to set forth the classification used in this analysis of cases I have followed Plummer's [1] classification, which is eminently satisfactory from a clinical standpoint According to this classification, there are three histologic variations from the normal thyroid structure which forms its basis (1) hypertrophy and hyperplasia of the alveolar epithelium, (2) marked increase of the intra-alveolar colloid, and (3) the development of new alveoli According to the predominating type of variation, a goiter may be hypertrophic, colloid or adenomatous, but any or all forms may be present in any gland

Three variations in function may be noted (1) pure hyperthyroidism, (2) pure hypothyroidism, and (3) exophthalmic goiter The chief difference of opinion turns on whether any differentiation should be made between adenoma with hyperthyroidism and exophthalmic goiter I agree with Plummer that they are two distinct entities, but whether they are or are not has no bearing on what I wish to emphasize, and will not be discussed here The ratio between these various types of goiter varies widely according to locality and to the geographic area from which any given clinic draws its patients

In order to determine this proportion for our clinic, a series of pathologic reports were analyzed, with the results shown in Table 1

The low percentage of true hypertrophic goiter and the high percentage of the adenomatous group is easily explained by the fact that our material is all drawn from a region in which endemic goiter is prevalent, and consequently our interest has been centered on this type

That type of goiter, variously called endemic, cystic, simple and adolescent, which is the type common to goiter belts and areas, is either a colloid or an adenomatous goiter or a combination of these types, called adenomatous colloid or colloid adenomatous goiter The adenomas usually are encysted, but diffuse adenomatosis is not uncommon As shown in Table 1, the largest percentage of goiters occurring in the goiter area is of this type, the most important fact about them being that they are preventable, and that with proper utilization of prophylactic measures they should cease to exist This cannot occur for some time, however, and their great frequency in certain areas is well shown by the reports of draft boards [2] and by surveys made by Marine and Kimball [3] in Akron, Ohio, by Levin [4] in Houghton County, Mich, and by R M Olin in several Michigan counties

The commonest form is a combination of colloid with adenoma, with the ratio between the two components changing with age These goiters are commonly first noticed at puberty, and consist largely of colloid The same deficiency that causes the distention of the alveoli with colloid may also act on the embyronal cells, causing them to form new alveoli, which constitute the adenomas When first noticed, the goiter is smooth and symmetrical, and the adenomatous elements may be palpable, although they more often are not, and during the second decade of the patient's life they usually do not function With the passage of time, the colloid element tends to decrease so that at the age of 25 the colloid component has diminished markedly, but the adenomatous portion, if present, has increased in ratio and usually in actual size

A goiter once overloaded with colloid usually retains some of this colloid, so that a certain amount is always present in it This progressive change in the ratio between the colloid and the adenomatous elements tends to continue until the adenomas dominate the picture During their life cycle, they have been undergoing continuous changes of a degenerative nature, and it is common to find all stages of this in one goiter, hemorrhagic, cystic, hyaline, fibrous and calcareous degenerations existing coincidentally

During the latter part of the third decade of the patient's life the adenoma may be functioning and hyperthyroidism begin to appear The exact mechanism


* From the Department of Surgery University of Michigan Medical School


1 Plummer H S The Clinical and Pathologic Relationships of Hyperplastic and Nonhyperplastic Goiter, J A M A 61 650 (Aug 30) 1913

2 Defects Found in Drafted Men War Department 1920

3 Marine David and Kimball O P The Prevention of Simple Goiter in Man J Lab & Clin Med 3 40 (Oct) 1917

4 Levin S One Thousand One Hundred Forty Six Goiters in One Thousand Seven Hundred Eighty Three Persons Arch Int Med. 27 421 (April) 1921

of its production is not known, but that it is a result of activity in the adenomas rather than in the remainder of the gland is generally believed [5]

As clinical evidence of this progressive relationship between the colloid and the adenomatous elements, Chart 1 is presented This has been taken from an

TABLE 1.—*Pathologic Classification of Five Hundred Goiters Showing Percentages of Each Group, with a Subclassification of the Adenomatous Group*

| | Percentage |
|---|---|
| Hyperplasia | 9 96 |
| Colloid | 18 00 |
| Adenomatous | 67 80 |
| Carcinoma | 1 25 |
| Sarcoma | 0 66 |
| Thyroiditis | 1 25 |
| Adenomatous | |
| Colloid adenoma | 85 6 |
| Fetal adenoma | 10 7 |
| With hyperplasia | 3 7 |

article by Levin,[1] and shows the result of an examination of the goiters of 993 females, varying in age from 1 to 61 These patients lived in the same locality, and their goiters probably were due to the same stimulus, consequently, the same pathologic condition would be expected to be present in all of them

The adenomatous goiter is diagnosed by the presence of nodules, the colloid goiter by its usual characteristics Adenomas may well have been present but not palpable in the goiter called colloid, and with advancing age the increasing percentage showing adenomas is marked One may fairly assume that the goiter called colloid up to the age of 25 is the same goiter called adenomatous at 45 with the change in the prominence of the component parts Undoubtedly, some goiters in this group may always remain pure colloid, and, likewise, in some the adenomatous element may dominate the picture from its inception, but the largest number are of the mixed type

It is commonly said that this type of goiter produces symptoms in at least two ways, by pressure on the structures of the neck, especially the trachea, or by the production of hyperthyroidism In order to ascertain what proportion of this group of cases presented hyperthyroidism, we analyzed a series of cases in this group, with the results shown in Table 2 The patients are grouped according to age, and show a definite increasing percentage of those with an elevated basal metabolic rate with each decade up to the age of 50 That is, a

TABLE 2.—*Analysis of Adenomatous Goiter Cases, Percentages of Increased Basal Metabolic Rate by Decades*

| | Basal Metabolic Rate | |
|---|---|---|
| | Normal | Elevated |
| Second decade (10 to 20) | 100 0 | 0 0 |
| Third decade (20 to 30) | 88 7 | 11 3 |
| Fourth decade (30 to 40) | 70 0 | 30 0 |
| Fifth decade (40 to 50) | 68 0 | 32 0 |
| Sixth decade (50+) | 81 0 | 19 0 |

person with an adenomatous colloid goiter may have hyperthyroidism in the late twenties, and with each year thereafter have an increasing and definite chance of developing this complication These figures are based on hospital cases and are higher than in any unselected group

This ratio between those with hyperthyroidism, as shown by an elevated basal metabolic rate, and those with a normal basal metabolic rate will vary greatly in different clinics, depending largely on the type of patient in that clinic Boothby [6] states that from 17 to 20 per cent. of persons with adenomatous goiters in the Mayo Clinic have hyperthyroidism

The adenomatous goiters with hyperthyroidism and the exophthalmic goiter together form the so-called toxic goiter group, the symptoms, morbidity and dangers of which are well known, acknowledged and much emphasized Since this is conceded, let us exclude this group and consider only the rest of the adenomatous goiters, that is, the so-called nontoxic group, comprising those adenomatous goiters in which there is a normal basal metabolic rate at the time of examination One finds that definite pathologic signs and symptoms, aside from the presence of the tumor, are found in an appreciable percentage of these persons These disorders center largely in the cardiovascular system

We took for analysis 300 cases of adenomatous goiter in patients above the age of 20 whose basal metabolic rate was found to be within normal limits, using from plus 15 to minus 15 as these limits These were

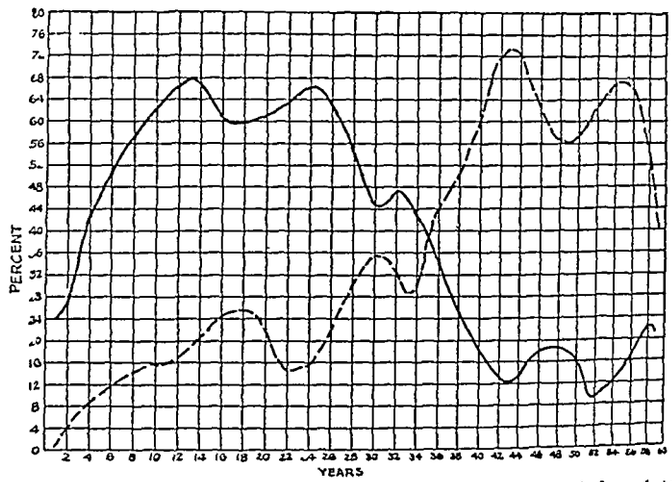


Chart 1.—Different types of goiters in 993 females aged from 1 to 61 years inclusive solid line, mean curve for percentage of colloid goiter, broken line, mean curve for percentage of adenomas

grouped according to age into four classes, corresponding to the third to the sixth decades A few patients in the seventh decade of life were included in the sixth decade There were approximately the same number in each group They were then analyzed to determine what percentage of them showed definite tracheal compression, tachycardia, cardiac enlargement, cardiac irregularity and psychoses Also the number complaining of palpitation and dyspnea was noted Asthenia, loss of weight, tremor and various nervous phenomena were present in many cases, but have not been tabulated here because the findings were variable, as the histories and examinations were made by several persons without common standards of comparison

The pulse rates were all apex observations, and the most of them were sleeping rates Cardiac enlargement was determined by physical examination, checked by orthodiagram Cardiac irregularities were determined by the electrocardiogram or by competent internists, and tracheal pressure was determined by roentgen-ray examination of the trachea and the thorax and by direct examination The results are shown in Table 3

5 Plummer, H S Interrelationship of Function of the Thyroid Gland, and of Its Active Agent, Thyroxin, in Tissues of Body, J A M A 77 243 (July 23) 1921

6 Boothby W M Diagnosis and Treatment of Disease of the Thyroid Gland, Oxford Medicine 3 883

The number of cases analyzed is too small to make the percentage in any group even approximately correct, but it would seem to indicate definitely the presence of cardiovascular abnormality, and also to show the progressive increase in the number involved, and in the severity of the lesion with each succeeding decade In no group is the number of cases with pressure, as measured by the presence of any degree of tracheal compression, equal to the number with heart symptoms Consequently, we cannot regard this as a sole causative factor Pressure of a marked degree was present in only a very few, and we did not feel that it did more than produce dyspnea in any case

The increase in the number and severity of the lesions with age is shown in a more striking and graphic way in Chart 2

Not all the cardiovascular lesions present in these cases are due to the goiter, as any group of persons examined at progressive ages would show an increasing incidence of these lesions, but I believe not anywhere near this proportion

This is the so-called "goiter heart," first described by Kraus,[7] in 1899, of which much has since been written, but its presence in this nontoxic group of cases has not been sufficiently emphasized

The causative factor is not clear, and while many theories have been advanced, many of them had their inception prior to the advent of metabolic studies and do not take into account our present knowledge It probably is caused by a long standing, low grade toxemia of some sort It may be due to a very low grade hyperthyroidism, or there may have been measurable exacerbations of this in the past, without symptoms severe enough to call attention to them If one appreciates the fact that there may be adenomas in various stages of degeneration in the same gland, it seems not inconceivable that different adenomas may, at varying intervals, be causing the overactivity, as they pass through certain of their degenerative phases, thus providing a toxemia of varying intensity over long periods of time That hyperthyroidism of some intensity has existed is a probability, since it exists in a measurable form in such a large number of them at the time of observation Fortunately, it seems clear that the removal of the adenomatous goiter will relieve these cases It will not cure the degeneration of organs present late in the disease, although certain of them are undoubtedly improved by removal of their cause

TABLE 3.—*Analysis of Adenomatous Goiter Group with Normal Basal Metabolic Rate, Showing Morbidity by Decades*

| Decade | Tracheal Pressure per Cent | Pulse Rate: Below 80 per Cent | Pulse Rate: 80 to 100 per Cent | Pulse Rate: 100+ per Cent | Enlarged Heart per Cent | Auricular Fibrillation per Cent | Palpitation per Cent | Dyspnea per Cent | Psychoses per Cent |
|---|---|---|---|---|---|---|---|---|---|
| Third | 18 | 46 | 36 | 18 | 18 | 0 | 53 | 47 | 0 |
| Fourth | 36 | 41 | 45 | 14 | 43 | 0 | 48 | 60 | 5 |
| Fifth | 24 | 26 | 37 | 37 | 45 | 4 | 65 | 58 | 4 |
| Sixth | 26 | 20 | 53 4 | 26 6 | 50 | 30 | 63 | 76 | 7 |

Certain factors seem to be instrumental in bringing on the acute phases of hyperthyroidism, important among which are acute infections, excessive use of iodin, many pregnancies in rapid succession and, perhaps, the menopause Aside from these, the time interval is the important factor in producing morbidity

7 Kraus F Ueber Kropfherz Beziehungen zwischen Struma und Morbus basedowii Wien klin Wchnschr **12** 416, 1899

Every one will concede the dangers of and the incapacity produced by adenomatous goiter with hyperthyroidism I have emphasized here the already known fact that definite lesions may exist in all stages of the development of the adenomas, during and following the third decade of life, even without a measurable hyperthyroidism Active hyperthyroidism and permanent degeneration tend to occur later in life No one can foretell which particular goiter of this type is going to exhibit hyperthyroidism or cause cardiovascular lesions of a severe degree, and the odds are all in favor of the appearance of incapacitating and dangerous lesions A large percentage of cases of malignant disease of the thyroid have their origin in adenomatous tissue, and early removal of the goiter would undoubtedly prevent many appearances of this group of neoplasms

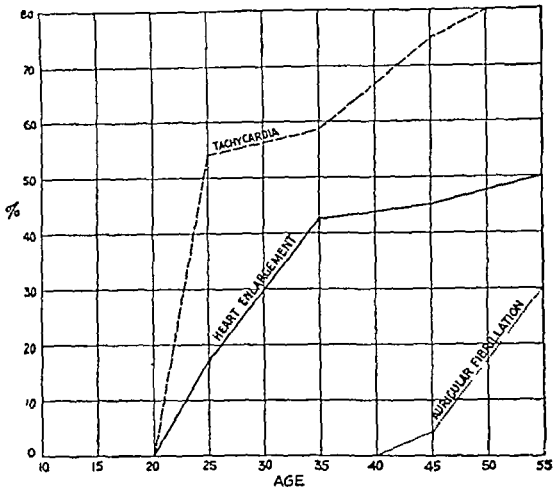


Chart 2.—Increase with age of percentage of patients with a normal basal metabolic rate exhibiting abnormalities of cardiovascular system

Few patients with goiters of the adenomatous type receive permanent relief from nonoperative therapy after the age of 25 The mortality from surgery of adenomatous goiters at this age is very low Its greatest mortality is in this group when permanent damage of the heart and other organs is present

We have seen many patients with adenomatous goiter with marked cardiovascular complications who at times in the past had been told that as long as their goiter did not bother them, they should let it alone When it did bother them, they had definite myocarditis

We believe that an adenomatous goiter in a person of 25 is a distinct menace, and that operation should be advised on diagnosis Prophylactic surgery is as important to patients with adenomatous goiters as the prophylactic medication is to those without them Prior to this age, operation may be necessary for the relief of pressure symptoms, but the goiter is not usually dangerous at this time

### CONCLUSIONS

1 Endemic goiter is a combination of colloid and adenomatous elements The adenomatous elements dominate the picture after 30

2 The percentage of patients with hyperthyroidism increases with age up to 50

3 In those cases in which there is a normal basal metabolic rate at the time of examination, a large percentage will show or develop eventually serious cardiovascular disorders

4 The time element is a most important factor in causing both hyperthyroidism and organic degenerations

5 Operative removal should be advised for adenomatous goiters, at least by the age of 30, as a prophylactic measure, even though no definite symptoms exist at this time

## BLOOD PRESSURE IN OPERATIVE SURGERY AND GENERAL ANESTHESIA *

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NEW YORK

All patients operated on at the Woman's Hospital have the blood pressure taken and recorded at least three times (1) when the physical examination is made soon after admission, (2) just prior to the administration of the anesthetic, and (3) at the completion of the operation If it is a critical case, the blood pressure is taken at frequent intervals during the operation, and at corresponding intervals in the postoperative period If at the first examination the blood pressure is markedly abnormal, it is taken repeatedly during the study of the case, and the lowest pressure observed during this study is considered normal for that patient unless there are attenuating circumstances

TABLE 1.—*High Blood Pressure on Day Preceding Operation*

| | Pulse | Respiration | Blood Pressure: Systolic | Blood Pressure: Diastolic | Pulse Pressure |
|---|---|---|---|---|---|
| On admission | 80 | 20 | 220 | 120 | 100 |
| Preanesthetic | 70 | 18 | 198 | 120 | 78 |
| Postoperative | 76 | 34 | 116 | 80 | 36 |
| On two occasions before admission to the hospital, pressures were | | | 135 | 90 | 45 |

Operation Hysterectomy, bilateral salpingo oophorectomy and appendectomy Time One hour and thirteen minutes Ether anesthesia

It often takes several observations to approximate the normal level, but unless this is done the blood pressure figures may be grossly misleading This is especially true when the patient comes to the hospital one day and is operated on the next (Table 1) The nervous tension of entering the hospital and of undergoing the physical examination sends the systolic pressure of the majority of patients up from 5 to 20 mm, and the other pressures accordingly Just prior to the administration of the anesthetic another increase is shown, which really amounts to something, from 10 to 40 mm systolic, ordinarily, and occasionally on up to 80 and 90 mm Here is some food for thought, in that all these patients have received a preliminary injection of morphin

These pronounced changes in pressure are not confined to any race, color, age or class, as they occur throughout the clinic and the private cases of both the attending and the courtesy staffs

On the other hand, some patients show no increase of blood pressure on admission, or before anesthesia, while others show the greatest elevation at the time of the first examination

The reactions of the blood pressure in different individuals vary so much that the general tendency sheds no light on any particular case, but each must be examined and considered by itself

Some regard blood pressure as the most reliable means at hand for estimating the patient's circulatory reserve, or power to withstand operative procedure Moots' rule is followed by many in operative prognosis It may thus be stated

> The pressure ratio, a fraction having the pulse pressure as numerator and the diastolic pressure as denominator, may be normal between 40 and 60 per cent If the ratio is either high or low, there is reason to apprehend danger If the ratio lies between 25 and 75 per cent, the case is probably operable, if it is outside these limits, it is probably inoperable[1]

Miller,[1] in checking up this rule in 1,000 cases, reports a death rate of 3 23 per cent in the operable class, and a death rate of 23 07 per cent in the probably inoperable class

During the last institutional year of the Woman's Hospital, the attending staff performed 1,312 operations Of these, twenty-two patients died, a mortality of 1 68 per cent

Of these deaths, four were in the "probably inoperable" class The time after operation and the causes of death were

1 Five days, septicemia (The patient evidently was infected from a virulent streptococcic pus tube at the time of operation)
2 Twenty-eight days, pulmonary hemorrhage
3 Ten days, septicemia (toxic absorption from necrotic fibroid following simple drainage)
4 Thirteen days, bronchopneumonia

It will thus be seen that, while there were deaths in this class, Motts' method of evaluation was inapplicable to them That is, these deaths were not due to causes with which it is concerned—the patient's circulatory reserve Nevertheless, I believe that it is a good rule to keep in mind, but only as being the point at which the caution signal should be raised To apply it too rigidly would be to deprive a large number of the benefits of surgery that may be done with comparative safety

Just as the majority of patients show an increase in blood pressure at the time the administration of the anesthetic is begun, so the majority of patients show a decline after anesthesia is established and the operation is well under way, especially when the nature of the operation requires full surgical anesthesia and considerable traumatism But here, again, there is variation Of course, those having shown the greatest preliminary rise now show the greatest fall And when the anesthetist is dealing with a falling blood pressure, the importance of having previously established the normal level becomes apparent, for shock does not impend until blood pressure is considerably below normal Just how much of a real, as distinguished from the apparent, fall may be tolerated before shock develops depends on several factors, included in which are the stages of the operation, the depth of the anesthesia, and the position of the patient

The Trendelenburg is the greatest offender of the usual positions Care should be taken when using it Deep anesthesia is a greater factor in lowering the blood pressure than it is generally considered The nearer the end of the operation, the better the fall in pressure is tolerated, on account of an early cessation of traumatism and the lightening of the anesthesia The patient showing the greatest preoperative rise in

* From the Woman's Hospital Clinic

1 Miller, A H Blood Pressure in Operative Surgery, J A M A 74 514 (Feb 21) 1920

blood pressure cannot sustain a pronounced and a prolonged fall below the normal so well as patients whose blood pressure is more stable

When the postoperative pressure shows a fall of 20 per cent below normal, with a pulse rate increased to 120 or more, the patient is in considerable depression, and should be carefully watched if not actually treated for depression If "watchful waiting" is pursued, and the blood pressure continues to fall or the pulse to increase, most certainly special treatment should be instituted During the operation, a somewhat greater depression may be tolerated, if not of too long duration The color of the patient's cutaneous circulation, when uninfluenced by the administration of oxygen or by some obstruction to a free respiratory movement, is an important index of the efficiency with which the vital functions are being carried on, and should be considered in the total picture

Blood transfusion stands at the head of the list of the means used for both the prophylactic and the restorative treatment of surgical shock and hemorrhage However, in many cases, when serious depression occurs during or soon after the operation, blood transfusion usually is not available soon enough, for time is an all-important factor in the restorative treatment To tide over till the patient can be typed and a donor arranged, 250 c c of a 6 per cent solution of gum acacia and 20 per cent, glucose is introduced intravenously at the rate of 4 c c a minute The solution needs to be specially prepared, and may be kept ready for emergency use

TABLE 2—*Record of Patient Given 250 c c of Gum-Glucose Solution*

| | Pulse | Respiration | Blood Pressure: Systolic | Blood Pressure: Diastolic | Pulse Pressure |
|---|---|---|---|---|---|
| On admission | 120 | 24 | 112 | 80 | 32 |
| Preanesthetic | 136 | 24 | 118 | 98 | 20 |
| Postoperative | 152 | 36 | 76 | 64 | 12 |
| 5 05 p m (45 minutes later) gum glucose solution started | | | 74 | 64 | 10 |
| 6 05 p m gum glucose solution finished | | | 100 | 60 | 40 |
| 7 15 p m | | | 102 | 60 | 42 |
| 9 35 p m | | | 103 | 76 | 27 |
| 11 50 p m | | | 104 | 64 | 40 |
| 8 30 a m the following day | | | 124 | 74 | 50 |

Operation Appendectomy freeing of adhesions and enterorrhaphy Time One hour and twenty minutes Ether anesthesia rebreathing method amount 9¼ fluid ounces (273 c c)

The salient points in the gum-glucose administration are 1 The solution must be sterile and clear 2 It must be given slowly 3 It must not be given in too large amounts 4 It should reach the vein at body temperature

Blood pressure is increased immediately on the administration of this solution, the patient becomes decidedly more pink, and there is every indication of a pronounced general improvement The improvement is so decided that in some cases blood transfusion may not be necessary, even though it seemed imperative at the time the gum-glucose was administered Such patients, however, must be carefully watched, for if there is not a genuine systemic reaction the blood pressure will fall again after a few hours, and the patient will again be in a critical depression

The use of these two means for the prophylactic and the restorative treatment of shock and hemorrhage is undoubtedly reflected in the mortality statistics herein reported It is significant that there was not a single death in the "probably inoperable" class during the past institutional year that was due to circulatory disturbance, which is the basis of Moots' classification

Attention is directed to the low postoperative systolic and pulse pressures given in Table 2 A systolic pressure of 76 or less, and a pulse pressure of from 10 to 12 for more than forty-five minutes, more than fulfils the "standard requirements" for a termination by way of circulatory exhaustion Yet this case is not at all special in its response to the treatment given (250 c c gum-glucose solution intravenously at the rate of 4 c c a minute)

TABLE 3—*Record of Patient with History of Epilepsy*

| | Pulse | Respiration | Blood Pressure: Systolic | Blood Pressure: Diastolic | Pulse Pressure |
|---|---|---|---|---|---|
| On admission | 70 | 18 | 123 | 82 | 41 |
| Preanesthetic | 88 | 18 | 120 | 75 | 45 |
| Postoperative | 96 | 36 | 140 | 85 | 55 |

Operation Dilation and curettage hemorrhoidectomy separation of adhesions resection of right ovary Simpson's suspension of uterus and appendectomy Time One hour and thirty five minutes Open drop ether anesthesia amount 133¼ fluidounces (406 c c)

While with the majority, by far, the blood pressure falls during the combined assaults of the anesthetist and the surgeon, yet there are some whose pressure rises even during prolonged major operations The blood pressure record of such a case is shown in Table 3

This patient, aged 38, gave a history of numerous epileptic convulsions during her eighteenth year, she had had none since

Attention is directed to the rising pulse pressure under a plentiful amount of ether and severe traumatism over a considerable time

Another patient, who gave no history of convulsions but had a severe one just before the abdominal operation was completed, and while the patient was under deep ether anesthesia, had a similar blood pressure record I have had three similar cases, all in adults, that is, presenting no history of convulsions before or since, but severe epileptiform convulsions near the completion of long abdominal operations, with the patients deeply anesthetized and the blood pressure increased

TABLE 4—*Record of Patient with High Blood Pressure*

| | Pulse | Respiration | Blood Pressure: Systolic | Blood Pressure: Diastolic | Pulse Pressure |
|---|---|---|---|---|---|
| On admission | 80 | 20 | 248 | 132 | 116 |
| Preanesthetic | 134 | 22 | 275 | 160 | 115 |
| When anesthetic had been given for 5 minutes | | | 320 | 155 | 165 |
| When anesthetic had been given for 20 minutes | | | 240 | 140 | 100 |
| When anesthetic had been given for 30 minutes | | | 160 | 90 | 70 |
| When anesthetic had been given for 40 minutes | 96 | 36 | 170 | 120 | 50 |
| When anesthetic had been given for 55 minutes | | | 174 | 120 | 54 |
| When anesthetic had been given for 80 minutes | 96 | 22 | 206 | 106 | 100 |
| Four weeks later when discharged from hospital | | | 225 | 115 | 110 |

Operation Supravaginal hysterectomy for fibroids and bilateral salpingo oophorectomy Time One hour Open drop ether anesthesia amount 9½ fluid ounces (280 c c)

When the operation is minor and the anesthesia is light, it is not uncommon for the blood pressure to rise a few millimeters during the operation, but not so in long major operations and deep anesthesia Likewise, prolonged and deep anesthesia ordinarily sup-

presses convulsions even in patients subject to such seizures

The exciting cause of these convulsions has not been determined

The patient, colored, aged 47, whose record is given in Table 4, was kept in the hospital for six weeks under special treatment before operation. The circulatory diagnosis was hypertension, arteriosclerosis, cardiac hyperthrophy and aortic insufficiency—compensation moderately impaired. There also was chronic interstitial nephritis and the Wassermann reaction was ++++.

It will thus be seen that this report includes surgery on handicapped patients.

### SUMMARY

1. The majority of surgical patients show an elevation of blood pressure on entering the hospital, and a still greater increase just before the anesthetic is administered.

2. To establish the normal blood pressure often requires several observations over a period of time, but, unless the normal is established, the figures may be grossly misleading.

3. A fall in pressure usually follows deep anesthesia of some duration and severe traumatism. In the cases in which convulsions occurred, this rule was reversed.

4. The best means used for combating shock and hemorrhage were the gum-glucose solution (250 c.c. administered at the rate of 4 c.c. a minute) and blood transfusion, the former as an emergency measure.

Bretton Hall, Eighty-Sixth Street and Broadway.

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## PHYSICIANS, DENTISTS AND FOCAL INFECTION IN THE DAKOTAS

CHARLES FRANK MORSMAN, M.D.
HOT SPRINGS, S. D.

For some time it has been evident that there is a great divergence of views, among physicians and among dentists, in the diagnosis and treatment of infections of the jaws. To assist in clarifying this regrettable situation to some extent, I have sent a questionnaire to 1,042 physicians and 541 dentists, being all the men and women who represent the two professions in North Dakota and South Dakota.

With each copy of the questionnaire was enclosed a courteous letter, stating the reason for this study, together with a stamped, addressed envelop for reply. I received 219 replies from the dentists and 281 replies from the physicians.

### QUESTIONS

1. What is your opinion as to the extraction of a tooth that shows definite periapical or pericemental destruction?
2. Do you believe that a tooth, at the apex of which an abscess exists, should be extracted at once, or do you advise treatment?
3. Do you believe in root canal treatment?
4. Is a devitalized tooth necessarily a dead tooth?
5. Do you roentgenograph all teeth of which you are suspicious, or have it done for you?
6. Do you own and operate a roentgen-ray apparatus?
7. If you believe in root canal treatment, what roentgen-ray evidence do you recognize that differentiates between a tooth that must be extracted and one that may be treated?
8. What, if any, clinical signs indicate to you that a tooth must be extracted?
9. Do you believe that every area of rarefaction at the apex of a tooth, as shown by roentgen ray, excepting those produced by the mental foramen and antrum of Highmore, indicates periapical infection?
10. In pyorrhea, what extent of alveolar destruction indicates extraction?
11. Are the physicians and dentists of your locality agreed on the treatment of peridental infection?
12. Do you believe that the physician and the dentist should consult as to the proper treatment of the teeth of a patient in whom they are mutually interested?
13. Will physicians, dentists and patients all benefit from frequent consultations between physician and dentist?
14. How frequently in your locality do dentists and physicians consult as to the method of procedure when they are mutually interested in a patient who suffers from peridental infection?

### ANSWERS

The replies to these questions are given in the accompanying table.

*Summary of Replies*

| Questionnaires sent | Tabulations | Physicians | Dentists |
|---|---|---|---|
| Replies received | 1,583<br>500 | 1,042<br>281 | 541<br>219 |

| Question No. | Question | Physicians Per Cent | Dentists Per Cent |
|---|---|---|---|
| 1 | Procedure with periapical or pericemental destruction? | | |
| | Extract | 69.7 | 84.4 |
| | Treat | 7.2 | 9.1 |
| | Indefinite or no answer | 23.1 | 6.5 |
| 2 | Procedure with abscessed tooth? | | |
| | Extract | 65.8 | 79.6 |
| | Treat | 11.3 | 20.0 |
| | Indefinite or no answer | 22.9 | 7.4 |
| 3 | Believe in root canal treatment? | | |
| | No | 40.9 | 29.1 |
| | Yes | 33.9 | 70.9 |
| | Indefinite or no answer | 25.2 | 0.0 |
| 4 | Devitalized tooth necessarily dead? | | |
| | No | 30.9 | 34.2 |
| | Yes | 42.4 | 58.5 |
| | Indefinite or no answer | 26.7 | 7.3 |
| 5 | Roentgenograph all suspicious teeth? | | |
| | No | 10.6 | 19.6 |
| | Yes | 74.3 | 80.4 |
| | Indefinite or no answer | 15.1 | 0.0 |
| 6 | Own roentgen ray apparatus? | | |
| | No | 48.5 | 42.1 |
| | Yes | 38.7 | 57.5 |
| | Indefinite or no answer | 12.8 | 0.4 |
| 7 | Roentgen ray evidence between extraction and treatment? | | |
| | Rarefaction | | |
| | Don't treat | 10.6 | 45.1 |
| | Indefinite or no answer | 40.9 | 29.5 |
| 8 | Clinical evidence denoting extraction? | 48.5 | 25.5 |
| | General signs | | |
| | Local signs | 10.3 | 1.4 |
| | General and local | 30.2 | 62.1 |
| | Indefinite or no answer | 24.2 | 10.9 |
| 9 | Area of rarefaction proof of infection? | 35.3 | 25.6 |
| | No | 43.4 | 73.9 |
| | Yes | 21.3 | 20.0 |
| | Indefinite or no answer | 35.3 | 6.1 |
| 10 | Extent of alveolar destruction denoting extraction? | | |
| | Less than one half | 15.6 | 2.1 |
| | One half or over | 10.3 | 41.5 |
| | Indefinite or no answer | 74.1 | 56.4 |
| 11 | Are physicians and dentists agreed as to various questions of focal infection? | | |
| | No | 41.7 | 82.0 |
| | Yes | 26.3 | 25.5 |
| | Indefinite or no answer | 32.0 | 9.5 |
| 12 | Should physicians and dentists consult? | | |
| | No | 1.4 | 7.4 |
| | Yes | 88.6 | 91.7 |
| | Indefinite or no answer | 10.0 | 0.9 |
| 13 | Will consultations benefit patients physicians and dentists? | | |
| | No | 2.1 | 2.3 |
| | Yes | 86.1 | 96.3 |
| | Indefinite or no answer | 11.8 | 1.4 |
| 14 | Frequency of consultations between physicians and dentists? | | |
| | Often | 41.6 | 81.1 |
| | Rarely | 22.0 | 29.1 |
| | Never | 10.0 | 6.5 |
| | Indefinite or no answer | 26.4 | 13.3 |

### COMMENT

The dentists are not agreed among themselves on many diagnostic points or on methods of treatment. Physicians hold conflicting views as to diagnosis and treatment of infections of the jaws. The two groups,

ıs groups, are far from agreed ın the ımportant subject of focal ınfection

Dentısts and physıcians, wıth few exceptıons, have expressed theır belıef that much good wıll come from frequent consultatıons between dentısts and physıcians relatıve to patıents ın whom they are mutually ınterested Practıcally all who have replıed to thıs questıonnaıre have ındırectly sıgnıfıed theır wıllıngness to hold such consultatıons

Hot Sprıngs Clınıc

## SUBDURAL FLUID ACCUMULATIONS FOLLOWING HEAD INJURY*

HOWARD C NAFFZIGER, M D
SAN FRANCISCO

Subdural fluıd accumulatıon after head ınjury seems to have escaped the comment of pathologısts and surgeons

Thıs pathologıc condıtıon ıs one found wıth or wıthout fıssured fracture of the skull, and has not been noted ın assocıatıon wıth depressed fractures or penetratıng wounds It ıs an accumulatıon of subdural but extra-arachnoıd fluıd

When a braın ınjury occurs, the ımmedıate effects of damage are soon complıcated by an ıncrease ın the fluıd content wıthın the skull Thıs fluıd may be present as extravasated blood, as edema ın whıch the fluıd ıs more or less fıxed ın the swollen braın tıssue, or as free fluıd of other types When present ın consıderable amounts, ıntracranıal pressure results

For the surgeon, a practıcal pathologıc classıfıcatıon ıncludes three groups (1) The extradural hemorrhages—chıefly of mıddle menıngeal orıgın (2) The swollen, contused and edematous braıns, whıch ın appearance vary from the small petechıal hemorrhages to the plum colored, lacerated and dısorganızed braın wıth varyıng amounts of free hemorrhage (3) The subdural fluıd accumulatıons Thıs group ıs of specıal ınterest and of consıderable clınıcal ımportance, and has attracted no attentıon

As to the type of case ın whıch the thırd pathologıc condıtıon has been found, ıt has been noted frequently ın ındıvıduals wıth hıgh or dangerously ıncreasıng ıntracranıal pressure Wıth ıt there ıs not ınfrequently a hemıparesıs of varyıng degree

Our judgment of ıntracranıal pressure has been based on the usual clınıcal sıgns of slow pulse, hıgh pulse pressure, stupor or unconsclousness, rısıng blood pressure, altered respıratıon and Traube-Herıng cycles, or what seems often to be ıts clınıcal equıvalent, even ın the absence of other sıgns, namely, rhythmıc recurrıng restlessness Also the spınal manometer offers a method of exact estımatıon, when the patıent ıs controllable so that the readıng ıs accurate After the fırst forty-eıght hours, the ophthalmoscopıc fındıngs ıncrease ın ımportance and value In decısıons made several days after ınjury, the optıc dısks are of the greatest aıd

### SUBDURAL ACCUMULATIONS

In some patıents, ıncreasıng sıgns of pressure have caused us to perform a subtemporal decompressıon The dura has been tense When ıt ıs nıcked wıth a knıfe blade, a jet of fluıd has spurted out Thıs fluıd ıs often water clear, but may be slıghtly tınged by fresh or old blood The pressure ıs often sufficıent to send a jet to the operator's shoulder It pours out ın large quantıtıes When the dura ıs then wıdely opened, ıt wıll be seen that ın the uncomplıcated cases the braın shows no gross evıdence of ınjury Careful exploratıon wıth a braın spoon beneath the dura, toward the frontal, parıetal and occıpıtal lobes and downward beneath the temporal lobe, wıll show stıll more fluıd, and the spoon wıll return partly fılled Examınatıon of the subarachnoıd space wıll show that ıt ıs sweatıng profusely Gentle pressure wıth a cotton sponge on ıt, to press out the fluıd, wıll be followed by a quıck return when the sponge ıs removed A total of 2 or 3 or more ounces may by these varıous procedures be removed It wıll then be noted that the braın ıs no longer under pressure There ıs no tendency for ıt to hernıate through the bone and the dural openıng It may even fall away from the dura Thıs fluıd has been collected, and, after examınatıon, reported as yıeldıng the usual tests for cerebrospınal fluıd At other tımes, fresh or old blood has altered ıts characterıstıcs It was not untıl thıs pathologıc fındıng was noted repeatedly that the sıgnıfıcant fact was ımpressed on us that thıs fluıd was ın an abnormal place, namely, ın the subdural (and extra-arachnoıd) space, whıch normally contaıns no fluıd From the appearance of the braın and the profuse sweatıng ın the subarachnoıd spaces, even after thıs extra-arachnoıd fluıd ıs removed, ıt would seem that there ıs also dammıng back ın these spaces

It ıs worthy of emphasıs that these subdural collectıons of fluıd seem to represent a defınıte clınıcal group Subdural fluıd may be and ıs, sometımes, found wıth a slıght degree of braın contusıon or wıth some hemorrhage Its presence, however, wıthout other dıscernıble pathologıc changes, makes ıt of particular ınterest It ıs common, ın addıtıon to the general ıntracranıal pressure, for a hemıparesıs to be present The subdural fluıd accumulatıon ıs often the only fındıng at operatıon Removal of thıs, followed by forty-eıght hour draınage, yıelds most gratıfyıng results, not only ın relıevıng the general pressure, but also ın that the hemıparesıs dısappears often as satısfactorıly as after the removal of a large extradural clot Certaın ıntracranıal fluıd ıncreases are often loosely referred to as edemas A sweatıng braın or free fluıd should not call forth such a term, as much confusıon has arısen from ıt In true edema of the braın, the fluıd ıs more or less fıxed ın the tıssue, as contrasted wıth such free fluıd ın the subarachnoıd A truly edematous braın ıs often dry on the surface

The subdural fluıd collectıons seem to represent normal fluıd ın an abnormal locatıon They are not ın any sense edemas It ıs possıble that ın true edema, followıng contusıon, there may be ınterference wıth the normal cırculatıon and absorptıon of the cerebrospınal fluıd In the group at hand, however, the fluıd has passed from the basal cısternae up over the cerebral hemıspheres, but ıs extra-arachnoıd No normal communıcatıons between the subdural and subarachnoıd spaces are known It seems necessary, then, to presume that the ınjury has caused tears ın the arachnoıd, through whıch cerebrospınal fluıd has passed, and ınto a space from whıch there ıs lıttle or no absorptıon

### METHODS OF REMOVAL

The questıon naturally arıses, Why not remove the fluıd by a spınal puncture or by repeated punctures rather than by operatıon? It ıs to be remembered that by spınal puncture we draın the subarachnoıd space, not

* From the dıvısıon of neurologıc surgery, Unıversıty of Calıfornıa Hospıtal

the extra-arachnoid or subdural one Spinal puncture might remove fluid so that there would be less to become subdural, but it is not likely that the subdural fluid would be removed We do feel, nevertheless, that in such cases there is temporary benefit by the removal of fluid from the spinal canal In the milder cases, it may be all that is necessary If, however, the benefit is very temporary following such punctures and after frequent withdrawal of large amounts, a small subtemporal opening with drainage will yield more permanent and satisfactory results, and it would seem that this is certainly preferable, particularly in the presence of a hemiparesis Subdural fluid accumulations yield us some of our most satisfactory results, and in this regard are in the same category with the extradural hemorrhages

The condition has been encountered in the first hours after injury as well as later days In one instance, pressure increased up to the seventh day after injury, and caused us to perform a subtemporal operation A clear subdural collection of several ounces was present

Subdural accumulations of this type have been seen only after injury The exact mechanism involved in their production is not proved, but they are common Many such cases can be tided over, possibly, by repeated spinal punctures, but in the severe cases subtemporal decompression and drainage give better results

380 Post Street

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# ARRESTED DEVELOPMENT OF THE COLON *

ROBERT L RHODES, M D
AUGUSTA, GA

J E Thompson,[1] in 1919, said

> Every operator expects the viscera to occupy normal positions, and, if he fails to find the organ he is searching for, he hunts for it where previous experience has taught him he is most likely to find it If he has been carefully trained in embryology, he will know beforehand where to look and what to observe, but if not, he will probably begin a ramble over the greater part of the abdominal cavity, which may end disastrously for the patient

The most frequent abnormalities of the abdominal viscera are the intestinal, and result from arrested development of the colon in embryonic life Recalling that the cecum, when first developed to the point of recognition in the embryo, occupies a position just above and to the left of the umbilicus, and that in the process of development, it rotates approximately 180 degrees and moves across the upper abdomen and downward, along the course occupied by the transverse and ascending colon in the fully developed individual, it is obvious that its progress may be arrested at any point in this course and the corresponding abnormality result The extremes, then, would be, on the one hand, a complete arrest of development with the cecum in the embryonic position, and, on the other, a simple arrest in development or descent of the appendix or cecum and appendix

The adherent retrocecal appendix is possibly the simplest maldevelopment of this group, and, by clinical observation, we have learned that this type of appendix is associated with a somewhat different chain of symptoms from the classical so-called "dyspepsia," flatulence, constipation and "intestinal indigestion" being prominent The less descent of the appendix or, expressed otherwise, the higher the appendix, that is, the nearer the level of the liver or the gallbladder, the more difficult is the differential diagnosis between appendicitis and cholecystitis or even renal lesions, when the appendix is firmly fixed in close proximity to the ureter At the other extreme, if there is complete arrest with the appendix above and to the left of the umbilicus, an acute attack of appendicitis may simulate pancreatitis, perforating gastric ulcer, etc On opening the abdomen in such a case, one is instantly impressed by finding the small intestine entirely on the right side of the abdominal cavity and the large bowel on the left, with the splenic flexure in practically normal position and anchorage

The value of case reports [2] was recently discussed in THE JOURNAL as follows

> The only way we can learn about rare conditions is by the accumulation of data provided by each of the several persons who have observed instances of them No one case gives the whole picture, but when we have accumulated enough separate views we can reconstruct a working model of the process The success with which this can be done depends largely on the accuracy and clearness of each of the several exposures

This, as previously stated, has been largely accomplished as regards arrested descent of the appendix, and it is improbable that any definite symptoms may be attributed to the arrested colon per se, but only in conjunction with the appendix as the acutely or chronically inflamed structure However, if one bears in mind these anomalies, it will prove of inestimable value not infrequently in differential diagnosis, in the plan of attack, and in the explanation of the findings encountered, and hence to scientific accuracy Does abnormality predispose to disease? Certainly we know that undescended testes are more prone to disease, such as inflammation or malignant degeneration, than the normally placed We attribute volvulus of the sigmoid to an elongated mesentery, either congenital or acquired In the adherent retrocolic appendix, we frequently find the walls of the terminal several inches of ileum thickened This we believe is due to muscular development incident to a greater force being required to propel the contents into the cecum, and to the fact that a partial obstruction is encountered at the ileocecal valve Operations under local anesthesia have revealed at this juncture a torsion movement in association with the peristaltic wave Does such an anomaly, especially when stimulated by irritation, as in ileocolitis, predispose to intussusception or other forms of intestinal obstruction? It is only by accuracy of observation and the recording of facts that the answer to such questions will be forthcoming

A F Jonas [3] and W C Gardner [4] have recently recorded observatins of undescended cecum and appendix, but the literature is conspicuously lacking concerning developmental anomalies of the colon

## REPORT OF CASES

CASE 1.—O S, a boy, aged 13 years, illustrated the atypical symptoms from the high appendix The cecum had been arrested at a point just above the level of the umbilicus, the appendix was retrocolic and adherent throughout except the

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* Read before the first group meeting of the Alabama Florida, Georgia, Louisiana and Mississippi Sections of the American College of Surgeons, Birmingham, Ala, March 2, 1922

1 Thompson, J E Surgery and Embryology, Surg, Gynec & Obst 31 18 (July) 1920

2 The Value of Case Reports, Current Comment, J A M A 78 285 (Jan 28) 1922

3 Jonas, A F Undescended Cecum and Vermiform Appendix, J A M A 76 1821 (June 25) 1921

4 Gardner W C Nondescent of the Cecum and Appendix, J A M A 77 1652 (Nov 19) 1921

proximal half inch, the tip was on a level with the costal margin, and had perforated with the development of an abscess, completely walled off by the ascending colon The onset was sudden, nine days before admission to the hospital, with pain around the umbilicus There was no nausea or vomiting, except after one dose of medicine The next day, the pain moved to the right hip and leg and to the right flank, high up There was never any pain over McBurney's point—opposing the assertion of Pottenger that appendicitis should always refer its pain to a fixed point The temperature reached 103 F and the pulse 120 and continued to do so daily

When seen in the hospital, the patient was lying on his back with the thigh sharply flexed, and he could not straighten it without pain referred to the hip and thigh, not to the abdomen The abdomen was not distended, and there was no tenderness or rigidity of the left half or of the right side below the level of the umbilicus In the upper right there was tenderness and rigidity, with a well defined abscess palpable even in the flank. The cecum or colon could not be found below the abscess The white blood count was 15,000 Under the diagnosis of a high retrocolic appendical abscess, with the cecum and appendix either arrested or drawn up by the abscess, the operation was performed through a split muscle incision, about 3 inches higher than the usual gridiron, the abscess was opened from the lower outer side of the colon, the contents were evacuated, the appendix was freed and removed, and drains were placed in position The cecum was not rolled under the colon, as is sometimes seen, but was in normal relationship, except that its descent was arrested about 3 inches above its normal position Convalescence was uneventful, and the patient was discharged on the eighteenth day

CASE 2—M H, a girl, aged 6 years, was admitted to Wilhenford Hospital with an arrested cecum and intussusception of the appendix, with partial intestinal obstruction The onset had been three weeks previous with paroxysmal pain around the umbilicus at intervals of ten to fifteen minutes Vomiting was at times associated with the attacks of pain There had been no fever The bowels had moved daily by means of laxatives or enemas The attacks would last several hours, and then would follow a period of cessation, as long as forty-eight hours The patient was not seen by a physician until two weeks had elapsed, when Dr W T Freeman discovered a small mass in the right upper abdomen, and brought her to see Dr W A Mulherin, with whom I saw her in consultation The temperature was 100 6 F and the pulse 120 The abdomen showed a mass, about 2 inches in diameter, just below the level of the right costal margin and apparently behind the cecum, it was freely movable and only a trifle tender There was very little spasm of the rectus muscle The colon and cecum could not be made out below the mass, and there was no tenderness or muscle spasm below, over McBurney's point or elsewhere Peristalsis was hyperactive and, at times, seemed to end abruptly in the region of the mass The bowels had moved well that day and again while she was in the office, the stools showed nothing abnormal The white blood count was 17,500, with 85 per cent polymorphonuclears The urine showed one plus albumin, and four plus acetone The diagnosis was made of an arrested cecum with an appendical abscess, walled off around the cecum and not involving the parietal peritoneum, and producing partial obstruction at the ileocecal junction In spite of urging, the parents refused to have an operation performed and took the child home The attacks of pain became more frequent, and were almost continuous during the last three days before she was brought to the hospital, one week after she was first seen by us Vomiting had been frequent, and she was in much poorer condition, being quite dehydrated, but the abdomen showed no change The white blood count was 25,000 She was given a large quantity of fluid overnight and enough opiate to secure rest, and was in a much better condition for operation the next morning

An upper right rectus incision freely exposed the high cecum through which the mass could be palpated, the omentum was nowhere near When the cecum was carefully lifted, the tip of the appendix came into view and next the mass, which consisted of an incompletely invaginated appendix with infiltration of the surrounding cecum, so placed as to act like a ball valve at the ileocecal junction Attempts to reduce the invagination were unsuccessful, and resection of the infiltrated cecum could not be done without encroaching too nearly on the ileum It was decided to try to strip out the mucosa of the appendix after the manner of skinning a rat's tail, and this was cautiously done by making a circular incision around the base of the exposed portion of the appendix down to the mucosa, after which the invaginated muscular and peritoneal coats were more forcibly manipulated and reduced The appendix was removed along with a small block of edematous cecum surrounding its base, and the opening was closed with a purse string suture of silk reinforced with several mattress sutures The ascending colon was only about 2 inches long, and the ileum from the cecum passed straight downward into the right iliac fossa, its walls quite thickened at the terminal end, but proximad the walls gradually thinned so that, 8 inches distant, they were normal in thickness Convalescence was uninterrupted, and the child was discharged one week later, and has had no trouble since

CASE 3—H H, a boy, aged 16 months, was admitted to Wilhenford Hospital suffering from complete arrest of the colon, with intussusception of unusual extent The history of this case is very incomplete because of the ignorance and prejudice of the parents The child probably had ileocolitis for two or three weeks, during which time he was seen and treated by several different physicians Five days before admission to the hospital, he developed a mass just above and to the left of the umbilicus, vomiting increased, and blood and mucus were passed by bowel, but no fecal matter The next day, the mass was farther to the left, it was rather freely movable and gradually moved downward over the left side of the abdomen, and vomiting became stercoraceous The parents refused to take the child to the hospital Three days later, another physician saw it and succeeded in persuading them to go On admission, the child was moribund, with a distended, rigid abdomen and a mass about 4 inches in diameter in the left lower quadrant The diagnosis of intussusception with diffuse peritonitis was made With the history of the course of the mass, the possibility of an embryonic colon was discussed, but we did not have the temerity to make such a diagnosis Permission for necropsy was sought, since the child was obviously near the end, but it was refused, permission for operation, however, was readily granted, and was undertaken more in the nature of an antemortem examination than with the idea of being able to do anything for the child Through a left rectus incision, a large quantity of free pus and intestinal contents was evacuated from the abdominal cavity The small bowel was entirely on the right side of the abdomen Exposure of the mass revealed an intussusception into the sigmoid, which had sloughed in several areas, and, through one of these, the appendix was presenting The entire large bowel was necrotic, and tore under the gentlest touch It was at once obvious that nothing short of resection could be done, even as a palliative Connecting the several sloughed areas by splitting open the intervening bowel, we were able to reduce the intussusception sufficiently to replace the bowel in its former, or usual, place, which was that of the embryonic position—the cecum just above and to the left of the umbilicus with the ileum entering from the right side The intussusception consisted of the following gangrenous bowel 12 inches of ileum, the cecum, and the rudimentary colon (entire) into the sigmoid, where necrosis and sloughing took place It is readily apparent that normally placed bowel could not have undergone such an extensive intussusception Resection of the gangrenous bowel and anastomosis of the ileum to the sigmoid was hurriedly done, but the child died as the dressing was being applied

## COMMENT

Even though we may not be able to "reconstruct a working model," since not all types of cases lead to that end, our scientific interest should be sufficiently keen to seek always an explanation for rare or unusual findings, and our observations of value to others should be recorded, that there may be lessened the number of rambles "which may end disastrously for the patient"

Lamar Building

# THE CARDIAC DISTURBANCES ASSOCIATED WITH DISEASES OF THE THYROID GLAND*

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There are two diseases of the thyroid that we can dispose of very quickly The smooth, uniform enlargement of this gland which occurs so frequently in children and in young people, particularly in young women, in this region and everywhere about the Great Lakes, and which appears to be due to a lack of iodin in the food and water, does not produce heart disease Myxedema and hypothyroidism are very frequently associated with hypertension, nephritis or arteriosclerosis, or with a combination of these,[1] and consequently with the type of cardiac disturbances to which they give rise

Most of the cardiac abnormalities produced by thyroid disease occur in those toxic states in which there is an elevation of the basal metabolic rate So far as the disturbances of the cardiovascular system are concerned, there is little difference between typical exophthalmic goiter and so-called "adenoma with hyperthyroidism" It is convenient in discussing the cardiac aspects of these conditions to distinguish between primary disturbances of the heart and secondary disturbances of the heart Under the former heading, we include those cardiac symptoms and signs which occur invariably, or almost invariably, in severe cases of thyrotoxicosis, and which may be considered, therefore, cardinal manifestations of thyroid intoxication Under the second heading, on the other hand, we include those cardiac abnormalities which, because of their relative infrequency, or because their frequency and intensity do not vary directly with the intensity of the other symptoms of the primary disease, may properly be looked on as complications

## PRIMARY DISTURBANCES

Of the primary disturbances of the heart, sinus tachycardia and the evidences of overactivity of the heart associated with it are the most common It has been shown that the increase in heart rate is more or less proportional to the elevation of the basal metabolic rate According to Sturgis and Tompkins,[2] a resting pulse rate of 80 is rarely, and a pulse rate below 90 is seldom, associated with a basal metabolic rate above plus 15 per cent In a given individual, variations in the basal metabolic rate are quite closely paralleled by variations in the heart rate Different individuals with the same percental increase in basal metabolic rate may, however, show resting heart rates that are quite unlike The same factors that are responsible for the wide range of the normal heart rate, and probably also for variations in the manner in which individual hearts respond to demands for increased blood flow, are no doubt the cause of these differences In judging the severity of toxic thyroid disease, the resting pulse rate is undoubtedly a better guide, the basal metabolic rate excepted, than any other single sign or symptom Aub and Stern[3] have shown that in complete heart block the administration of thyroid substance increases the auricular, but not the ventricular rate, which indicates that the thyroid hormone exerts its effect on the heart rate through nervous channels

The tachycardia of thyroid intoxication is accompanied by other cardiovascular phenomena The heart appears to beat with unusual suddenness and violence, the heart sounds are often unusually loud, and a soft systolic murmur is commonly heard at the apex or in the pulmonic area, less often in the aortic area The violent apex beat is frequently accompanied by a pseudothrill and by vibration of the chest wall, extending beyond the left border of the heart, so that a diagnosis of cardiac enlargement or of mitral disease is often erroneously made The pulse is large, and there is exaggerated pulsation of the peripheral arteries, and, frequently a capillary pulse These vascular signs are somewhat like those of aortic insufficiency, but, although large pulse pressures are the rule in toxic goiter, the diastolic pressure is high, whereas in aortic insufficiency the diastolic pressure is low There are also special vascular phenomena in the region of the enlarged gland, violent pulsation of the thyroid vessels accompanied by thrills and murmurs is common

Similar vascular phenomena occur in normal persons after severe exertion, and it is probable that they are due chiefly to a greatly enhanced metabolic rate That the minute output of the heart and the metabolic rate are greatly increased by exertion has been sufficiently demonstrated, and although the circulation rate has not been actually determined in toxic goiter, a total blood flow more or less proportional to the metabolic rate is undoubtedly maintained It is clear, therefore, that the elevated basal metabolic rate so characteristic of toxic goiter must greatly increase the work of the cardiorespiratory system Plummer and Boothby[4] have shown further that there is a decreased mechanical efficiency in toxic goiter, in that the performance of a given amount of work demands a greater expenditure of energy than is required under normal conditions This places an additional burden on the heart and lungs A patient with exophthalmic goiter has a high basal metabolic rate, the pulmonary ventilation and the amount of blood that the heart must pump are correspondingly increased When the patient exercises, we must add to these already greatly increased requirements not only the increase in pulmonary ventilation and cardiac output that the exercise ordinarily demands, but also an extra amount, because of the abnormal energy waste

It is not surprising, therefore, that many sufferers from thyroid intoxication complain of dyspnea and other symptoms of cardiorespiratory weakness Such symptoms may be produced in normal persons by sufficiently strenuous exertion, and by an amount of exertion that places no greater demands on the heart and lungs than does moderate or slight exertion in patients with toxic goiter Slight dyspnea on exertion, palpitation, and abnormal fatigability cannot under such circumstances be regarded as definite evidence that the heart muscle has been injured by the disease Whether slight swelling of the ankles, which is common in these patients, may, in the absence of signs of circulatory stasis, be so considered, is also questionable We know too little of the many factors that cause edema to speak

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* From the department of internal medicine, University of Michigan Medical School

* Read before the American Association for the Study of Goiter, Bloomington, Ill, Jan 24, 1924

1 Fishberg, A M Arteriosclerosis in Thyroid Deficiency, J A M A **82** 463 (Feb 9) 1924

2 Sturgis, C C, and Tompkins, E H Study of the Correlation of Basal Metabolism and Pulse Rate in Patients with Hyperthyroidism, Arch Int Med **26** 467 (Oct) 1920

3 Aub, J C, and Stern, N S Thyroid Extract and Heart Block, Arch Int Med **21** 130 (Jan) 1918

4 Plummer, H S and Boothby, W M, quoted by McCann, W S Medicine **3** 76

with confidence, it is quite possible, for instance, that the altered metabolism of the tissues may predispose to its occurrence

Many patients with toxic goiter who complain of dyspnea on exertion have vital capacities within the normal range further evidence that their breathlessness is not necessarily the result of cardiac damage Others show a subnormal vital capacity and, if the change from normal is conspicuous, the heart is probably weak in proportion to the demands made on it

Of the phenomena enumerated, none, unless it be edema or a greatly reduced vital capacity, can be considered reliable evidence of damage to the heart Nevertheless, the absence of other signs does not necessarily mean that the heart has escaped injury It is probable that few patients who have had toxic goiter for any considerable period of time have entirely normal hearts

### SECONDARY DISTURBANCES

Of the cardiac complications of thyrotoxicosis, enlargement of the heart is one of the most important So far as the clinical examination is concerned, there is nothing about it that is characteristic The roentgenray examination usually shows a globular enlargement without distinctive features The electrocardiogram is most often normal, but the signs of left ventricular preponderance are by no means rare, abnormal right ventricular preponderance is rarely seen The enlargement of the heart is probably due chiefly to dilatation resulting from cardiac weakness As to the frequency and degree of hypertrophy, we have little exact knowledge It might be supposed that the greatly increased work of the heart in toxic goiter would almost invariably lead to a conspicuous increase in the muscle mass, and undoubtedly such an increase is not infrequently present L D Wilson[5] reports that in twenty-one cases of toxic goiter which came to necropsy some degree of hypertrophy was noted in sixteen instances In two instances, the heart weighed more than 500 gm and was unquestionably hypertrophied In the other instances there was from 5 to 10 per cent increase in the heart weight It is very questionable whether an increase in heart weight no greater than this can be considered significant Herrmann and Wilson[6] found that in persons without postmortem evidence of cardiac, vascular or renal disease, the ventricular weight-body weight ratio varied between 0 00170 and 0 00390 (average value, 0 00292) A study of a like series of cases reported by Lewis gave similar figures In view of the fact that the weight of the ventricles freed of fat and all nonmuscular tissue must be less variable than the heart weight, as usually determined, it is hardly justifiable to look on an increase in heart weight of less than from 30 to 50 per cent as reliable evidence of cardiac hypertrophy In one of our recent cases of fatal toxic goiter, the ventricular weight-body weight ratio was 0 00283, and the relative weight of the two ventricles was also within normal limits The symptoms were of four years' duration, and the patient had suffered from cardiac failure for two months preceding admission to the hospital The basal metabolic rate was plus 41 per cent Toxic goiter does not, therefore, always lead to cardiac hypertrophy

Our knowledge also of the myocardial changes produced by thyroid intoxication is meager In eighteen of the twenty-one cases studied by L D Wilson,[5] the muscle fibers were pale, with indistinct striations and "lipoidal" changes Whether the latter were more conspicuous than in patients dying at similar ages from other diseases, the author had not determined at the time of the report Goodpasture[7] states that fatty degeneration is the most common change seen in the heart muscle in fatal cases of toxic goiter He has reported also the occurrence of diffuse necrosis of the heart muscle, and has shown, experimentally, that although thyroxin alone produces only focal necrosis and perivascular fibrosis in rabbits, it renders the heart more susceptible to injury by chloroform Small amounts of the latter, though without effect on normal animals, may induce widespread necrosis of the heart muscle in animals that are receiving thyroxin It is possible, therefore, that the cardiac complications of toxic goiter are the result of a combination of factors, and that thyroid intoxication makes the heart susceptible to injury by agents that are normally without effect on it

Clinical evidence of myocardial changes in toxic goiter is by no means rare Of the disturbances of the mechanism of the heart beat, sinus arrhythmia and extrasystoles, compared to their incidence in other diseases that damage the heart, are comparatively uncommon These irregularities are likely to occur only when the heart rate is comparatively slow and the sinus tachycardia of toxic goiter tends to prevent their occurrence Atrioventricular heart block and intraventricular heart block are occasionally observed Even when the tendency of the former to disappear when the heart rate is elevated is allowed for, they are much less common than would be anticipated were extensive and diffuse myocardial injury, such as occurs in rheumatic fever and diphtheria, a common event in severe thyrotoxicosis But, if the type of myocardial injury which produces heart block is rare, that which gives rise to auricular fibrillation and auricular flutter is decidedly common The former is by far the more frequent, and in a large percentage of the cases it is transient or paroxysmal It is particularly common after goiter operations, in so-called postoperative thyroid shock, it is likely to be associated with an extreme acceleration of the ventricular rate Persistent auricular fibrillation is unquestionably dependent on relatively permanent changes in the myocardium, this is shown by its tendency to return after it has been abolished by quinidin Paroxysmal fibrillation probably depends on a similar, though perhaps less serious, myocardial injury Transient fibrillation, on the other hand, is probably more often due to temporary myocardial changes, either structural or physicochemical In some patients with toxic goiter, attacks of auricular fibrillation may accompany periods of increased toxemia, and they are sometimes brought on by exertion or excitement

### TREATMENT

It is the general opinion that, in fibrillation complicating toxic goiter, the ventricular rate is less easily controlled by digitalis medication than in fibrillation in other types of cardiac disease This opinion is in some measure justified It is often impossible to reduce the ventricular rate appreciably, when fibrillation occurs in association with "postoperative thyroid shock", we have given intramuscularly as much as 15 c c of a proprietary digitalis preparation, an amount of the drug which usually has a conspicuous effect, within a period

5 Wilson L D Tr A Am Phys 38 144 1923
6 Herrmann, G R, and Wilson F N Heart 9 91 (April) 1922
7 Goodpasture E W J Exper Med 34 407 1913

of a few hours, without reducing the ventricular rate more than a few beats a minute Many patients with auricular fibrillation and toxic goiter, however, respond just as well to digitalis therapy as other fibrillators Others respond poorly, sometimes because even small amounts of digitalis produce prolonged nausea and vomiting, and sometimes because the amount of digitalis that produces these symptoms, though large, is insufficient to reduce the ventricular rate to the level desired Digitalis reduces the ventricular rate in auricular fibrillation chiefly through its effect on the vagus center, in toxic goiter, the vagal tone is undoubtedly low, and this is a disadvantage in the digitalis treatment of fibrillation

Also the question of the desirability of reducing the ventricular rate to between 60 and 70 a minute, the goal aimed at in ordinary cases of fibrillation, when the demands placed on the heart are increased by an elevated basal metabolic rate, has been raised I believe that unless the heart rate is reduced to approximately this level, when possible, the full beneficial effects of digitalis will not be obtained Rates much higher than this when the patient is at rest are likely to become excessive when he exercises No accurate studies of the total blood flow in toxic goiter have been made, but we judge from the recent studies of Meakins, Dautrebande and Fetter [8] on the blood flow in mitral stenosis that although an increase in heart rate is invariably, or almost invariably, accompanied by an increase in total blood flow when the rhythm is normal, the opposite is the case when the auricles are fibrillating In the absence of the observations on total blood flow that would enable us to determine the optimal ventricular rate in auricular fibrillation, it seems best to follow the practice suggested by ordinary clinical observation and attempt to reduce the ventricular rate to between 60 and 70 a minute under resting conditions

Since auricular fibrillation associated with toxic goiter is often of the transient form, and since it is very often present in patients who have relatively mild cardiac failure, quinidin therapy might be expected to give excellent results Regarding the frequency with which quinidin abolishes fibrillation in toxic goiter as compared with fibrillation in other types of heart disease, very little accurate information is available In our rather meager experience, conspicuous successes and conspicuous failures have been about equally numerous In a very few cases of postoperative fibrillation in goiter patients, small doses of quinidin, single doses of 5 or 10 grains (from 0 3 to 0 6 gm ) have been followed promptly by cessation of the abnormal rhythm In cases in which the ventricular rate is very high, we have hesitated to give the drug, on account of the increase in ventricular rate that it usually produces It may be noted here that Wenckebach believes that, even when the rhythm is regular, both quinin and quinidin have a tendency to quiet the excessive throbbing of the heart, of which the majority of patients with toxic goiter complain

Of the purely electrocardiographic signs of myocardial injury in toxic goiter, inversion of the T deflection in Leads I and II is the most common The exact significance of this sign is still doubtful Nevertheless, if the effects of digitalis, which regularly produces inversion of the T deflection, can be ruled out, it is a reliable sign of myocardial changes, and probably has some prognostic value

In view of the great number of patients with toxic goiter that are admitted to hospital wards, the severer grades of heart failure, such as lead to great dyspnea or orthopnea, severe chronic passive congestion of the lungs, liver and kidneys, and conspicuous edema, hydrothorax and ascites are comparatively rare Death resulting purely from the cardiac complications of toxic goiter is also, in our experience, relatively uncommon It is true that, in so-called postoperative thyroid shock, auricular fibrillation, with extreme ventricular tachycardia and indications of cardiovascular collapse, are seen, but necropsies in such cases usually show severe degenerative changes in the liver and other parenchymatous organs, indicating death from profound toxemia It is probable that death results in such instances from overwhelming intoxication, in which the heart suffers along with the other vital organs

Milder grades of cardiac weakness are not infrequent, and should be treated exactly as under other circumstances, by rest, morphin when necessary to relieve dyspnea or insure complete rest and sleep, digitalis in amounts sufficient to produce its characteristic effects, and a proper diet The diet should be designed to meet the caloric requirements, or, perhaps, for the first few days, to fall somewhat below them, it should contain only sufficient protein to prevent a negative nitrogen balance, and should be poor in salt

### EFFECT OF GOITER ON HEART

As to whether adenomatous goiter without hyperthyroidism may damage the heart, it is difficult to form an opinion A great deal has been written of the so-called goiter heart of the endemic goiter regions of Europe This has been attributed at various times to mechanical factors, such as compression of the trachea or blood vessels of the neck and upper mediastinum, to a special kind of thyroid toxemia, and to the factors thought to be responsible for the enlargement of the thyroid gland Most of the observations on which these theories, now largely if not wholly abandoned, were based were made before the days of metabolic rate studies, so that the part played by mild hyperthyroidism in this type of cardiac disease is difficult to estimate It should be noted also that thyroid deficiency, which is common in endemic goiter regions, may also cause cardiac disease through its effect on the blood pressure, the kidneys and the arteries, and probably in other ways also It is certainly true that many patients with thyroid adenomas of long duration but with normal basal metabolic rates at the time of observation have abnormal hearts Dr F A Coller [9] has recently reviewed a series of such cases, and finds in the succeeding decades of life an increasing percentage of cases with tachycardia, cardiac enlargement and disturbances of the heart's rhythm It is, of course, impossible to say that no increase in the basal metabolic rate existed before the patient came under observation, nor is it possible to say that in a given patient past middle life the enlarged thyroid gland is responsible for cardiac abnormalities not of a distinctive type It must be remembered that myocardial diseases are very common after middle age in nongoitrous people, as a result of vascular changes and other causes as yet unknown Nevertheless, it is clear that a persistent enlargement of the thyroid gland, even though it be regarded as nontoxic at the time of the examination, is at least a potential menace to the myocardium

8 Meakins J , Dautrebande, L , and Fetter, W J Heart **10** 153 (April) 1923

9 Coller, F A Personal communication to the author

# THE RELATION OF ANAPHYLACTIC DISTURBANCES TO ARTHRITIS

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Despite the great prevalence of arthritis, the destructive character of its lesions, and the incalculable amount of suffering and economic loss that it causes, the etiology of this widespread malady is still very much in doubt, and the foremost authorities fail to agree on any rational treatment by which its ravages may be controlled

Animal experimentation has demonstrated that the early pathologic changes induced by arthritis are swelling and congestion of the synovial membrane accompanied by increased growth and desquamation of the lining cells and infiltration of the membranes with lymphoid cells This is soon followed by an exudation and, as the condition progresses, definite articular and periarticular changes take place, with the production of pain and limitation of motion, and the gradual increase of permanent deformity, which frequently results in the complete incapacity of the patient

The different manifestations of arthritis have been variously classified, but it is rather difficult to adhere to any definite separation of types Ostearthritis or arthritis deformans, may present acute, subacute or chronic manifestations, depending on whether the condition in the joint is infective, toxic or septic in origin, and on the virulence of the infecting micro-organisms These manifestations may also be the result of an anaphylactic disturbance productive of changes in the articular or periarticular structures

It is commonly accepted that certain individuls have a predisposition to joint affections, and those who attribute the occurrence of arthritic lesions to trauma base their opinion on the fact that the joints most exposed to injury are those most likely to be affected by arthritis, since, if trauma were the sole requisite for the production of joint affections, practically all living creatures would be subject to it But, in the face of the fact that, prevalent as it is, arthritis is not universal, we are compelled to look further for the etiologic factor, and to pass under review all the possible exciting causes in our endeavor to elucidate the mystery that has so far baffled those who have attempted to prevent and cure this most destructive malady

The first step should be a thorough search for all foci of infection Transillumination and roentgenography should be brought into service to explore the nose and its accessory sinuses, the nasopharyngeal fossa should be searched for infected adenoid masses, the mouth should be systematically examined to reveal any pus pockets that may lie hidden beneath apparently sound and vigorous teeth Special attention should be given both lingual and faucial tonsils, for it is not alone the prominent hypertrophied tonsil that should be looked on with suspicion Frequently, small buried tonsils may be harboring infective foci, for overlapping pillars or adhesions due to some previous inflammatory process can easily prevent drainage, and result in the production of toxins from the retained bacteria, thus setting up an infection which is quickly carried by the blood stream to the remotest parts of the organism

Of great importance is a thorough exploration of the gastro-intestinal tract Though it is frequently asserted that arthritis is never due to pathologic conditions in this region, it was found by Fisher [1] that of seventeen cases studied post mortem, fifteen showed a focus of infection and two presented intestinal toxemia It is my opinion that, given a preexistent susceptibility to arthritis, intestinal stasis, with or without an associated gastro-enteroptosis, may be a prominent etiologic factor in the production of arthritic or periarthritic changes It should be remembered also that the genito-urinary tract may be harboring some sources of infection

When a definite infective focus has been discovered and eliminated, it frequently happens that the patient will be quickly relieved of all arthritic symptoms, and, if the process has not been permitted to progress to irremediable deformity, permanent and satisfactory recovery will take place Often, however, even the removal of all possible foci of infection will do little to ameliorate the distressing condition, or the most minute search will fail to reveal any source from which bacterial contamination could be derived Our only resource now will be examination of the daily intake of food, in the endeavor to trace the path of infection by this route

Dietary restrictions are by no means a new element in the attempt to control arthritis For generations, medical tradition has handed down a regimen supposed to lessen the tendency to joint inflammations There can be no hard and fast rules of diet laid down to fit all cases Each patient is "a law unto himself," and every case must be studied individually, and the diet regulated according to its special requirements In the cutaneous sensitization test, such as is used to determine the sensitivity to the proteins causing certain respiratory and cutaneous affections, we have a convenient and easily applicable means of finding out to just what articles of food the particular patient is sensitive, and in my personal experience the elimination from the diet of these foods has been quickly followed by improvement in the joint conditions It has been proved that sensitization to certain proteins is productive of disturbance in the respiratory tract, such as asthma and hay-fever, or of the cutaneous surface, as in urticaria and eczema, and it seems logical to apply the same line of reasoning to the disturbances of the joints which we group under the common designation of arthritis, arguing that the continued action of bacterial or other proteins, either with or without the additional factors of trauma or movement of the inflamed joints, will eventually result in extensive injury to the cartilaginous and bony structures

The question of diet in arthritis has been extensively studied, but apparently not from the point of view that I am here endeavoring to present Fletcher [2] observed that in a great majority of his arthritis patients the sugar tolerance was markedly decreased, and, when this was the case, dietary restriction was more beneficial than it was to those patients whose sugar tolerance was normal Following influenza, and, in one patient, after a tonsillectomy, sugar tolerance greatly decreased, a fact that he attributed to the presence of infection, which, in the postoperative case, was probably the relighting of an old focus Scrutiny of the regular food intake of these patients revealed "excess of carbohydrate food," but 'the addition of food rich in vitamin" was by no means always effective in relieving the arthritis, and this author was not able to hit on any

1 Fisher A G T A Contribution to the Pathology and Etiology of Osteo-Arthritis Brit. J Surg 10 52 (July) 1922
2 Fletcher A A Dietetic Treatment of Chronic Arthritis and Its Relationship to the Sugar Tolerance Arch Int. Med. 30 106 (July) 1922

satisfactory explanation of the fact that restriction in diet was of so much benefit to some, and wholly ineffective with others, apparently presenting identical conditions I am of the opinion that the application of the food allergy test would have made the whole situation perfectly clear

This study of arthritis with the food allergens has been carried over a period of ten years, with numerous cases Sixty per cent of those studied have shown results similar to the following cases, and I feel that the percentage of results offers highly suggestive evidence of the importance of food allergy in the production of these conditions

## REPORT OF CASES

CASE 1.—A married woman, aged 38, with no family history of arthritis, in 1919, first began to have arthritis in both knees, no other joints being affected until August, 1921, when she was bedridden for two months with a generalized acute "rheumatism," affecting all the joints of the upper and lower limbs, the larger ones being most severely involved, the condition in the hands and feet being less severe There was especially severe pain on rotation of the cervical articulations While this condition was most acute there was an accompanying diarrhea, with the passage of membranous casts sometimes 2 feet in length As the acute arthritic condition subsided, the diarrhea continued, though in less violent form and with the passage of smaller casts The intestinal condition was treated by a high colon lavage every other night, and a low enema every day, up to the time the patient came under my observation, four months later At this time, she was so crippled that she needed assistance to enable her to rise from her chair She gave a history of good health up to the age of 24, when, believing herself to be overweight, she had endeavored to reduce by dieting and hard work, since then she had always 'felt tired" The tonsils had been completely enucleated in 1920, and roentgenography and transillumination had failed to reveal any foci of infection in the sinuses or the mouth The patient herself had observed that the ingestion of any quantity of chocolate always exacerbated the "rheumatism" The joints were painful, tender and swollen, and crepitation in both knees was marked

The application of cutaneous tests led to the detection of all the sensitive foods, and they were eliminated from the dietary The high colonic irrigations were discontinued, and, three weeks later, the patient returned to the office unassisted, reporting that the bowels now moved but twice daily, except that every fourth day movements would be increased to three or four There was still slight crepitation of the knees Two months later, the periods of increase in the number of bowel movements occurred only once in seven days, and crepitation had entirely disappeared After another month of adherence to the restricted diet, all manifestations of diarrhea disappeared, as well as the "rheumatism," and so long as the patient adheres strictly to the prescribed diet there is no return of symptoms

CASE 2.—A single woman, aged 52, whose father, mother and maternal aunt all suffered from arthritis, complained of enlargement of the phalangeal joints of the hands, first noted four years before examination, the affected joints being red, swollen and tender, and the periarticular swelling so great as to prevent the distal ends of the fingers from approximating closer than half an inch Two years before, there began to be pain in the region of the second and third dorsal vertebrae, evinced on bending the head backward or forward, accompanied by swelling and tenderness of the tissues over the vertebrae Six months before, the right knee became involved, with pain, swelling and crepitation on movement

As the tonsils had been completely enucleated and the teeth exonerated by roentgenography from harboring infective foci, cutaneous tests were applied, and all reacting foodstuffs eliminated from the diet Within three weeks, pain ceased, the affected parts were no longer sensitive to pressure, and the swelling subsided in all the joints, the phalanges returning to normal, so that the fingers could once more be approximated

CASE 3.—A married woman, aged 63, whose mother's sister had arthritis, noticed, nine years before examintion, that her feet tired easily and swelled on walking This condition grew progressively worse, being exacerbated by an attack of lumbago six years before, following which the hands also became affected One year before, the knees, shoulders and elbows began to be involved in the process, although the condition in the larger joints was not so severe as that in the ankles and feet, and the hips were not involved

Examination showed considerable exostosis of the phalangeal articulations, with swelling and thickening of the articular tissues, especially in the right ankle, at the external malleolus and at the articulation of the fibula and the astragalus Constipation was present, and there was complaint of intestinal discomfort and "gas" which bore no relation to the ingest on of food Only the lower central and incisor teeth remained, and as these were in bad condition, showing evidences of pyorrhea, they were ordered extracted and the sensitizing foods ascertained and forbidden Within four weeks, pain decreased in all the joints, swelling subsided within six weeks, in eight weeks' time, all swelling and tenderness had disappeared, the patient being able to walk without discomfort After four months' freedom from arthritis, she overstepped her dietary restrictions by indulging in turkey, potato and squash, all foods to which she gave a positive cutaneous reaction Within five hours, she experienced pain in all the formerly affected joints, walking became difficult, and there was generally bodily "aching" This condition was relieved in forty-eight hours, when the sensitizing proteins had been eliminated from the system

## COMMENT

In the consideration of these three cases, it is noticeable that all the patients were women, and that the age of the onset of arthritis represents the third, fourth and fifth decades in life There is no uniformity in the manner of onset, nor any indication of a predilection for any especial type of joint Case 1 began in the large joints, which continued throughout to be those chiefly involved, while in Case 2, the small joints were those mostly affected, and in Case 3, the affection was largely confined to the feet and hands

The fact that two out of three family histories revealed relatives affected with arthritis offers evidence in favor of a hereditary tendency to this affection, which corresponds to the findings made in family histories of patients suffering from such anaphylactic disturbances as hay-fever or angioneurotic edema, there being one family on record [3] in which five generations were known to have been affected with the last-named disease

In two cases there had already been a systematic search for infective foci, but in the third case, the presence of a bad oral condition may be considered as a possible contributory factor in the arthritic condition In two cases also, intestinal disturbance was a noticeable feature, but whether the intestinal condition was a predisposing cause, or was induced by the same etiologic factors that set up the joint condition, or whether it was the result of the action of sensitizing food on the alimentary canal, which, in view of my hypothesis, I consider most probable, cannot be definitely determined

## CONCLUSIONS

Arthritis may be due to an infectious process secondary to some focus of infection

If no original focus can be demonstrated in the organism, cutaneous tests should be applied to determine what sensitizing proteins are being ingested in the diet which can be held accountable for the existing arthritis

The elimination of such offending articles of food from the dietary has in the cases cited been followed by the prompt remission of symptoms, and failure to

3 Crowder, J R, and Crowder, T R Five Generations of Angioneurotic Edema, Arch Int Med **20** 840 (Dec) 1917

adhere to the dietary limitations has immediately reproduced the conditions that had been abolished by the avoidance of such sensitizing foods

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# THE BASOPHILIC AGGREGATION TEST IN LEAD POISONING

## PRELIMINARY REPORT *

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The testing of the blood in lead poisoning by the basophilic aggregation method is based on the fact that the developmental period of red cells within bone marrow may be interrupted under conditions of physiologic need or pathologic changes in the bone marrow These conditions that make demands on the bone marrow lead to the appearance in the peripheral circulation of red cells in varying stages of immaturity The nucleated red cell is characteristic of marked immaturity The transition to maturity is marked by the extrusion from the red cell of a single highly refractile body, recently described by Isaacs [1]

### CHARACTERISTICS OF YOUNG ERYTHROCYTES

In addition to these two characteristics, other qualities serve to distinguish these young erythrocytes from old ones

The premature red cell is usually larger than the mature one in the same preparation [2]

Immature red cells contain a basophilic substance, the nature of which is not fully known [3] In the unaltered young cell this basophilic material is ordinarily evenly distributed throughout the hemoglobin-bearing portion of the cell Following vital or nonvital staining, the same basophilic substance may appear as punctate stippling, fragmented stippling, polychromatophilia, or as cell reticulation [4]

These young cells are more resistant to crenation than more mature erythrocytes [3]

The hemoglobin content is less in developing cells

An increased resistance to sodium chlorid hemolysis is accepted by Luzzatso and Ravenna,[5] as marking the youth of red cells This has not been borne out by the work of Pepper and Peet [6]

A tendency exists among premature cells to adhere closely to one another or to white cells [3] This stickiness may have some relation to the process of erythrocyte delivery from the bone marrow into the general circulation

The undeveloped cell appears to consume oxygen, while the adult erythrocyte is not known to consume oxygen [7] Cytologically, therefore, the adult erythrocyte is not a living cell, while the developing erythrocyte is to be regarded as living [3]

### BASOPHILIC SUBSTANCE [8]

With any tissue having so many distinguishing markings as indicated above, it should prove readily possible to devise some test to measure the occurrence of this tissue, either qualitatively or quantitatively, or both

Of all the characteristics of young cells, the presence of basophilic substance appears to be most constant, and the one that lends itself best to the demonstration of immature cells This basophilic substance is not known to occur in any cells other than blood and bone marrow cells

Occasionally this basophilic material is found as punctate stippling, preformed in the blood From 30 to 70 per cent of lead poisoning cases present this blood alteration, varying according to the experiences of different observers Ehrlich and Grawitz [9] maintained that red cell basophilia is diagnostic of plumbism Anything over 100 preformed stippled cells per million red cells has been regarded as proof positive of this condition Since other anemias exhibit the same preformed stippled cells in such proportions, this diagnostic specificity is not warranted Nevertheless, it is a common practice in the determination of lead poisoning to examine blood smears, stained by the Wright's method, for these preformed stippled cells Diagnostic significance is attached if even four preformed stippled cells in 100 microscopic fields are detected Such punctate stippling is also found in other industrial poisonings, such as from anilin and nitrobenzene

Often this pathologic stippling is missing and the basophilic substance is evenly distributed throughout the cell, and is not readily detectable after ordinary staining methods After Wright's staining of blood smears it is frequently noted that some cells are slightly dissimilar to the main group Such cells may be larger and so take the stain as to appear more deeply stained in the same color as the main group, or may take on violet or bluish tints These are termed polychromatophilic cells Rarely do these cells stand out boldly In addition to the polychromatophilic cells, which are *easily detected after staining by the Wright* or similar methods, there may be other cells containing basophilic substance but in such quantities that they are not easily detected

It is obvious, therefore, that if this basophilic material is to be utilized as the basis for a laboratory test, some means must be found for bringing this substance into greater visual prominence, such as the clumping of this evenly distributed material Whatever test is devised must be a quantitative one since, under normal conditions, a few young cells can be found in the circulation Except in very rare cases, a normal person will present no preformed stipple cells or nucleated red cells, but may present up to 1 per cent of cells containing basophilic material In the new-born, as high as 20 per

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* From the Department of Preventive Medicine University of Cincinnati College of Medicine (M R) and the Industrial Health Conservancy Laboratories (C P M and D K M)

1 Isaacs Raphael Properties of Young Erythrocytes in Relation to Agglutination and Their Behavior in Hemorrhage and Transfusion Arch Int Med **33** 193 (Feb) 1924

2 Biffi H Bull Soc Med Ann **79** 8 1908 quoted from Key (Footnote 3)

3 Key J A Studies on Erythrocytes with Special Reference to Reticulum Polychromatophilia and Mitochondria Arch Int. Med. **28** 511 (Nov) 1921

4 Hawes, J B A Study of Reticulated Red Blood Corpuscles by Means of Vital Staining Its Relation to Polychromatophilia and Stippling Boston M & S J **161** 493 1909 quoted from Key

5 Ravenna F Sulla resistenza della emazie granulose nelle soluzioni choro sodiche Lavori e riviste di chimica e microscopia clinica **1** 325, 1909 quoted from Pepper and Peet (Footnote 6) Luzzatso A M and Ravenna F Sue fenomeni di autolisi nelle emazie granulose Folia clinicia chemica et microscopia 1919 11, 3 53 1919, quoted from Pepper and Peet.

6 Pepper O H P and Peet M M The Resistance of Reticulated Erythrocytes Arch Int. Med. **12** 81 (July) 1913

7 Harrop Oxygen Consumption of Human Erythrocytes, Arch Int Med **23** 745 (June) 1919 quoted from Key

8 Because of the confusion in the use of such terms as reticulated cell mitochondrial cell and polychromatophilic cell by different hematologists we have sought to avoid the defining of the relation between our basophilic aggregation and these disputed blood forms We have merely associated it with the broader term basophilic substance We emphasize that this is a preliminary report. Further work is necessary to establish these relationships

9 Ehrlich and Grawitz cited by Oliver T Lead Poisoning Sources Symptoms and Treatment, in Kober and Hayhurst Industrial Health Philadelphia, P Blakiston's Son & Co 1924 p 420

cent of the red cells may be basophilic.[9] Any test, therefore, must take into consideration this normal content, and under pathologic conditions must demonstrate numbers larger than the normal.

The work that we have carried out appears to lead to the clumping of all the basophilic material in young cells. Stippled cells are created in vitro and appear in large numbers, when no or few stippled cells would appear when stained with ordinary methods. Such stippled cells as appear after Wright's staining are preformed in the blood and may be observed in fresh, unstained preparations. The stippled cells seen in the basophilic aggregation test are not preformed in the blood but are entirely due to the artificial aggregation of the evenly distributed basophilic substance found in young cells.

In order to distinguish between the preformed punctate stippled cells referred to previously, and the stippled cells created by our methods, we have designated the latter "basophilic aggregations," and will refer to them as such throughout. The essence of this test is the greater visibility of cells containing basophilic substance.

## PREPARATION OF MATERIAL, TECHNIC

The basis of our work is the hemolysis of the red cell prior to staining.[4] Blood smears from the patient are made in the usual way under the usual precautions of cleanliness, etc. No effort, however, is made to secure thin smears. As the hemoglobin is to be withdrawn, it becomes possible to see through many layers of cells. The method, therefore, is a thick drop method. Hemolysis may be carried out with distilled water or hypotonic salt solutions, after which staining may be obtained with almost any of the basic coal tar dyes. In actual practice, we utilize Manson's methylene blue, which is prepared in the following manner. Five grams of borax is dissolved in 100 c.c. of boiling distilled water, to which is then added 2 gm. of methylene blue. This stain deteriorates by the end of one month, and certain lots have for unknown reasons proved unreliable. Instead of hemolyzing the blood corpuscles prior to staining, we dilute a small quantity of the Manson's stain with distilled water until the stain is transparent. The unfixed slide is then stained for ten minutes. The staining is so slow under these conditions that hemolysis precedes staining. After air drying, the slides are examined microscopically, the oil-immersion lens being used. In cases of lead poisoning, it is common to find twenty-five or more basophilic aggregations in a single field, as shown in the accompanying illustration. Preparations from the same patient, made at the same time, and stained with Wright's stain may show only a few preformed stippled cells in the entire slide.

It is our belief that the minute, invisible basophilic particles are aggregated into coarser masses, as a result of hemolysis. This is borne out when the blood is fractionally hemolyzed with diminishing concentrations of hypotonic sodium chlorid solutions. In those tubes in which corpuscles are exposed to the action of such concentrations of sodium chlorid as 0.35 and 0.3 per cent., the number of stippled cells is much larger than in such concentrations as 0.6 and 0.5 per cent. Ravenna[5] reports that, in the sediment from the tube containing 0.5 per cent. sodium chlorid solution, only 3 per cent. of the cells presented "skeined forms," while the tubes containing 0.32 per cent. sodium chlorid solution revealed 86.9 per cent. "skeined" corpuscles. When hemolysis is fractional, the red cells become much swollen, and the basophilic substance is definitely arranged at the periphery and assumes the general appearance of a "string of beads."

On microscopic examination, the slides stained by this hemolyzing methylene blue method have the following characteristics. In some preparations, the red cell membrane is visible and the basophilic granulations are observable within these membranes. In other instances the red cell membrane is not visible. All types of white blood cells and blood platelets are recognizable. The granules tend to arrange themselves at the periphery. In many instances, the groups of granules are much distorted and lead to the conception that they have been extruded from the cell body in the process of hemolysis. The size of the granule varies markedly in different preparations and even within a single cell. When the red blood cells are much larger than normal, the basophilic aggregations are apt to be arranged definitely at the cell periphery.

## RELATED WORK

Under the designation "post vitam method," dilute methylene blue solutions have been used in the staining of wet film preparations for the detection of punctate red cells.[10] Under the designation "thick drop method," the procedure introduced by Ross for the examination of malarial blood has been recommended by Schilling[11] for ascertaining basophils in lead poisoning. Analogous work has been carried out by Schwarz,[12] Schwarz and Hefke,[13] Seiffert,[14] Engel,[15] and others.

## STANDARDS

Since about 66 per cent. of normal individuals may exhibit an occasional basophilic aggregation after this hemolyzing stain, it is obvious that the mere detection of such cells in individuals suspected of lead poisoning is without significance. It is necessary to establish some quantitative relation. For our work we have adopted a crude set of quantitative standards. A definite source of error arises from the fact that our thick drop smears cannot be made with uniform thickness. None the less, in our experience the following scoring system has proved of value.

| | |
|---|---|
| + | Few cells containing basophilic aggregations on entire slide |
| + + | Cells containing basophilic aggregations on average of 1 in every 5 fields |
| + + + | Cells containing basophilic aggregations in approximately every field |
| + + + + | Four cells containing basophilic aggregations in approximately every field |
| + + + + + + | Six cells containing basophilic aggregations in approximately every field |
| + + + + + + + + + + | Ten or more cells containing basophilic aggregations in every field |

10 Gilbert, A., and Weinberg, M.: Traite du sang, p. 146, quoted from Sellers, A.: Blood Changes in Lead Workers, J. Indust. Hyg. 2: 367 (Feb.) 1921.

11 Schilling, V.: Anleitung zur Diagnose im dicken Tropfen, Jena, 1920, quoted from Schwarz and Hefke (footnote 13).

12 Schwarz, L.: Concerning Blood Examinations in Cases Suspected of Lead Poisoning, Med. Klin. **22**: 659 (May 29) 1921; Blood Examination in the Thick Drop Method in Cases Suspected of Lead Poisoning, Zentralbl. f. Gewerbehyg. **9**: 192, 1921.

13 Schwarz, L., and Hefke, H.: Sources of Error in the Early Diagnosis of Lead Poisoning, Deutsch. med. Wchnschr. **19**: 7 (Feb. 16) 1923.

14 Seiffert, G.: Method of Blood Examination for Lead Poisoning, Munchen. med. Wchnschr. **69**: 46 (Nov. 17) 1922.

15 Engel, H.: Microscopic Blood Examination of Lead Workers, Munchen. med. Wchnschr. **69**: 626 (April 28) 1922.

### MATERIAL FOR CLINICAL OBSERVATION

The occurrence of a number of cases of lead poisoning in a local storage battery plant has afforded us an opportunity to examine forty-eight lead workers In this battery factory, work conditions were generally favorable to the production of lead poisoning The outstanding hazard was found in the "pasting" department In this work, a paste of lead oxid and litharge is forced into the interstices of small lead grids After chemical treatment, these grids become the positive and negative plates found in storage batteries The process, as carried out, in this plant involves frequent exposure to lead dusts In addition, lead is carried into the mouth through eating or smoking, at times when the hands are covered with lead paste Lesser hazards were found in the assembling department, where certain lead parts were fused together with acetylene torches, and in the molding department, where lead parts were cast Because of the lack of supervision in such processes as mixing lead oxids, or sweeping, practically every person in the entire plant was exposed to lead

Of the forty-eight workers coming to our attention, ten exhibited lead poisoning in such severe form that they lost time from factory work and were treated in hospitals or in their own homes

TABLE 1.—*Basophilic Substance in Normal Persons*

| Subject | Age | Basophilic Aggregations |
|---|---|---|
| S H | 27 | — |
| M L R | 63 | + |
| S A O | 27 | — |
| D M | 27 | — |
| B S | 65 | ++ |
| R K | 24 | ++ |
| W R. | 24 | — |
| O P M | 37 | + |
| D K | 19 | + |
| J D | 23 | + |
| C D | 19 | + |
| A. S | 65 | ++ |
| A L C | 55 | + |
| C K | 40 | + |
| J S | 56 | — |
| L B | 21 | + |
| M R | 24 | — |
| F P | 30 | + |

A second group composed of eleven workers presented a few of the characteristics of lead poisoning These are classed by us as "lead absorption cases" Although it proved possible to keep these employees at work, under treatment, they are regarded by us as mild cases of lead intoxication, in the majority of instances

In a third group termed "lead exposed workers" there were twenty-seven exployees In this group have been placed employees in the wood-working department, office workers and new employees, together with a number of long exposed workers in hazardous departments who have presented neither clinical nor laboratory evidence of any lead involvement

In addition to the groups indicated above, laboratory examinations have been made on eighteen known normal persons and twenty-nine hospital patients suffering from conditions in no way associated with lead poisoning A total of 201 examinations have been carried out on ninety-five persons

### FINDINGS FROM LABORATORY EXAMINATIONS

In Table 1 we have recorded the findings as to basophilic aggregations in the blood of normal persons In no single instance have normal persons averaged more than one basophilic aggregation per five oil immersion fields examined The blood of these normal persons was in some instances stained with Wright's stain At no time, have preformed stippled cells or polychromatophilic cells been found Although the number of normal persons examined is small, the percentage showing some basophilic substance coincides with Schwarz's figure of 66 per cent Under the rating scale devised by us, we are disposed to place the upper limit for normal persons at two plus

TABLE 2.—*Basophilic Substance in Disease Conditions Other Than Lead Poisoning* *

| Patient | Age | Diagnosis | Basophilic Aggregations |
|---|---|---|---|
| C E | 64 | Polycythemia | +++ |
| S | 42 | Gallstones | — |
| M C | 14 | Subacute nephritis | — |
| H D | 74 | *Chronic nephritis* | + |
| C W | 64 | Diabetes | + |
| W G | 45 | Tabes secondary anemia | ++++ |
| D | 35 | Acute nephritis | + |
| M | 49 | Acute arthritis | — |
| C | 30 | Pneumonia | + |
| H | 25 | Pneumonia | ++ |
| T | 21 | Syphilis | + |
| D | 37 | Tuberculosis | ++ |
| G | 54 | Gastric ulcer | + |
| F | 38 | Tuberculosis peritonitis | ++++++++++ |
| K | 41 | Hanot s cirrhosis | + |
| P | 6 wks | Premature b irth | + |
| J | 1 | Eczema anemia | +++ |
| C S | 4 | Severe burns | +++ |
| M | 4 mos | Malnutrition | +++ |
| F S | 2½ | Gastro intestinal | + |
| A U | 6 | Enlarged tonsils | + |
| J M | 30 | *Infected finger* | — |
| D | 43 | Amputation of hand | ++ |
| H | 47 | Hernia | ++ |
| F V | 56 | Gallstones | + |
| J R | 35 | Fibroids | ++ |
| C B | 37 | Anemia | ++++ |
| A U | 39 | *Gastritis* | + |
| F S | 28 | Hysteria | + |

* Some of these patients were examined at the Cincinnati General Hospital through the courtesy of Dr Roger Morris

TABLE 3.—*Basophilic Substance in Definite Lead Poisoning*

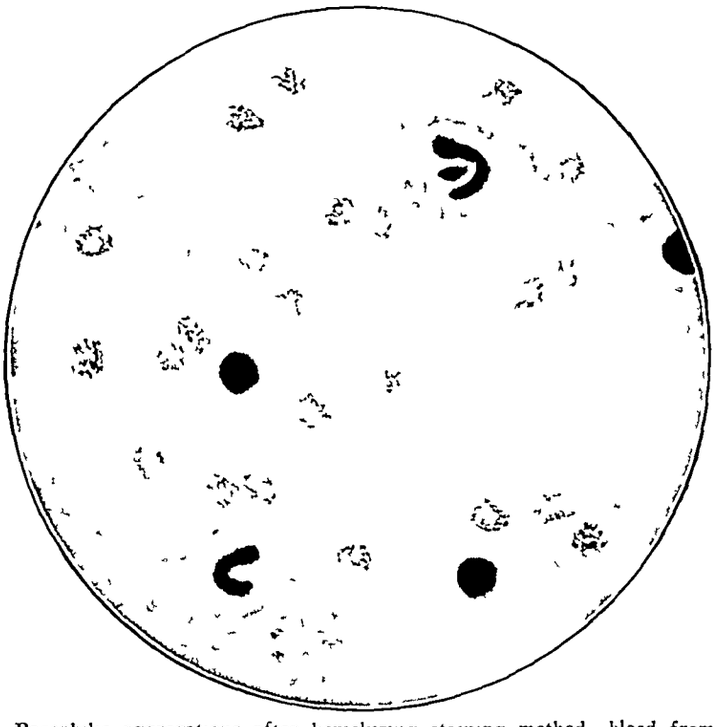
| Patient | Age | Period of Exposure to Lead | Diagnosis and Principal Manifestations | Basophilic Aggregations |
|---|---|---|---|---|
| J M | 21 | 5 mos | Plumbism<br>Lead colic pains in joints | ++++++++++ |
| P V | 47 | 3 mos | Plumbism<br>Lead colic cachexia constipation wrist weakness | ++++++++++ |
| H E | 19 | 3 mos | Plumbism<br>Lead colic wrist weakness lead line | ++++++++++ |
| A W | 18 | 2 mos | Plumbism<br>Lead colic, nausea joint pains | ++++++++++ |
| T D | 22 | 4 wks | Plumbism<br>Lead colic nausea weakness constipation vertigo | ++++++++++ |
| R M | 45 | 5 mos | Plumbism<br>Lead colic lead line constipation weakness | ++++++++++ |
| E E | 23 | 2 mos | Plumbism<br>Lead colic loss of appetite constipation | ++++++ |
| R W | 18 | 3 mos | Plumbism<br>Lead colic loss of appetite vertigo weakness nausea | ++++++ |
| W T* | 45 | 10 yrs | Plumbism<br>Lead colic under treatment in hospital for 1 month | ++++++ |
| F E* | 26 | 6 wks | Plumbism<br>Lead colic constipation loss of weight | ++++++++++ |

* White lead workers

In Table 2 we have recorded findings from the blood examination in disease conditions other than lead poisoning In charting this material, it has not been possible to include any extensive part of the divers clinical findings We have merely noted the outstanding diagnostic point In all conditions that involved anemia, the basophilic aggregation test has been high

The only case, however, that has been as positive as the usual frank lead case was the one of peritonitis associated with tuberculosis Since this test is regarded as a measure of the young blood cells thrown into the circulation, it may be expected that in any anemia or allied condition this test will be positive There is thus some reason to believe that this test may be utilized in a variety of diseases other than lead poisoning

In Table 3 are recorded the findings from definite cases of lead poisoning All of these cases except three have presented basophilic aggregations in excess of 10 per oil-immersion field Some of these patients were known to have suffered from lead poisoning for several weeks prior to any treatment In other instances, treatment had been in process for more than two weeks, when smear preparations were made In about one half of these definite lead cases, preformed stippling was readily established after Wright staining In a few others, only after considerable search was stippling found after Wright staining In a few, no stippling was present In all, polychromatophilic cells were found



Basophilic aggregations after hemolyzing staining method, blood from patient with lead poisoning, diagrammatic

In Table 4 are noted the numbers of basophilic aggregations found in a group of borderline cases These persons have exhibited one or two of the early characteristics of lead poisoning It is our practice to place such persons on antilead treatment without waiting for the development of unquestionable lead findings It is our opinion that the majority of these patients present incipient cases of plumbism A few may present suggestive clinical findings, whose origin may, however, be in no way connected with lead With one exception, all these borderline cases present basophilic aggregations in excess of the normal (two plus) If the basophilic aggregations are in excess of four plus, we feel warranted in instituting antilead treatment even if clinical manifestations are absent

In Table 5 we have charted the basophilic aggregation test findings from a group of workers, none of whom had presented, up to the time of this compilation, clinical manifestations of plumbism Among those workers exposed to hazardous processes, the number of basophilic aggregations found is roughly proportional to the length of exposure We regard this increased number of basophilic aggregations as evidence of beginning lead absorption It is noteworthy that increased basophilic aggregations may occur after only two weeks' exposure The finding of this increase should in every instance lead to the institution of mild lead eliminating treatment

TABLE 4.—*Basophilic Substance in Borderline Cases of Lead Poisoning (Lead Absorption)*

| Patient | Age | Period of Exposure to Lead | Diagnostic Signs and Symptoms | Basophilic Aggregations |
|---|---|---|---|---|
| R M | 45 | 3 mos | Lead line, occasional pains in joints | − − − |
| C F | 18 | 5 mos | Pallor, constipation, loss of appetite | + + |
| J G | 37 | 4 mos | Lead line, headaches | + + + − |
| W G | 20 | 13 mos | Slight lead line, weakness | + + + + + + |
| M H | 30 | 20 mos | Slight lead line, constipation | + + − − − + |
| M C | 17 | 4 mos | Vertigo, nausea | + + − − + |
| J R | 25 | 4 yrs | Gastritis, pallor | + + + + |
| A B | 21 | 5 mos | Anemia | + + + + − − − + + + |
| R D | 26 | 10 mos | Anemia, weakness | + − − − + |
| L B | 19 | 7 mos | Headaches, vertigo | + + + + |
| C I | 21 | 2 mos | Constipation nausea | + + + − − − − + + + |

## COMMENT

This basophilic aggregation test as used by us is not pathognomonic of lead poisoning It is regarded as a measure of the precocious introduction of red cells into the circulation The blood of healthy persons in about 66 per cent of our examinations contains a few of these basophilic aggregations that serve as the criterion for this test A variety of disease conditions having no connection with lead poisoning lead to the occurrence of these aggregations This is particularly true of conditions involving anemia On a quantitative basis, clinical cases of lead poisoning regularly exhibit a high basophilic aggregation content of the blood From our experience and as charted by us, the majority of lead exposed workers quickly come to have a higher basophilic aggregation count than is found among normal persons To us, this indicates a preclinical plumbism If, in the routine physical examination of these lead workers, which is required by law in many states, it is established that the basophilic aggregation count is increasing, such workers, with or without clinical manifestations of lead poisoning (in the absence of other

TABLE 5.—*Basophilic Substance in Workers Exposed to Lead (No Clinical Manifestations)*

| Subject | Age | Period of Exposure to Lead | Basophilic Aggregations |
|---|---|---|---|
| W F | 42 | 7 yrs (in office) | − − |
| C F | 40 | 5 days | + |
| E F | 25 | 2 weeks | + |
| J M | 33 | 2 weeks | − |
| M R | 23 | 2 weeks | + + |
| B G | 20 | 3 days | − |
| W R | 23 | 2 weeks | + + + + + + |
| G M | 20 | 2 weeks | + + |
| W B | 16 | 2 weeks | − − − |
| L B | 35 | 3 weeks | − |
| R W | 19 | 1 week | + + |
| H K | 20 | 3 months | − − + + |
| H L | 18 | 2 months | + + + |
| W W | 24 | 3 months | − |
| R P | 18 | 7 weeks | + + + |
| W V | 30 | 4 weeks | + + + |
| C S | 23 | 2 weeks | + + |
| E E | 23 | 3 weeks | − − − − |
| E S | 28 | 2 weeks | + |
| R F | 19 | 3 weeks | + + |
| W M | 34 | 2 weeks | + + |
| I S | 19 | 6 days | + |
| W H | 42 | 6 weeks | + + + + |
| L B | 36 | 6 weeks | − + + + |
| L G | 17 | 5 weeks | + + + + |
| L C | 19 | 5 months | − |
| H S | 18 | 3 months | − |

diseases), should be placed on lead-eliminating or lead-controlling treatment In our work we institute treatment for all workers whose rating is six plus or higher, according to the standard devised by us With additional clinical evidence of plumbism arising from our physical examinations, we feel warranted in beginning treatment when the basophilic aggregation rating is four plus We believe that we are thus, to some extent, anticipating and warding off the severe clinical manifestations of plumbism

34 West Seventh Street

## APOPLEXY OF THE BREAST

### REPORT OF CASE *

ELLIOTT C CUTLER, M D
BOSTON

This report concerns the unusual occurrence of copious hemorrhage into the breast without antecedent trauma, tumor or other local disease Reference to the condition cannot be found in the literature Hemorrhage into cysts of the parenchymatous tissue of the breast does occur, and blood cysts associated with papillomas have been reported Even such lesions, however, are uncommon In this case a large series of microscopic sections failed to reveal any pathologic changes suggesting tumor, and trauma seemed to be ruled out by the fact that the lesion appeared while the patient was in bed, convalescing from a light case of bronchopneumonia

### REPORT OF CASE

*History*—Mrs M B, aged 55, a widow and the mother of three children, was referred to me by her physician, Dr D C Dennett of Winchester, Mass, because of a discolored mass that appeared in the left breast during the course of convalescence from a light attack of bronchopneumonia

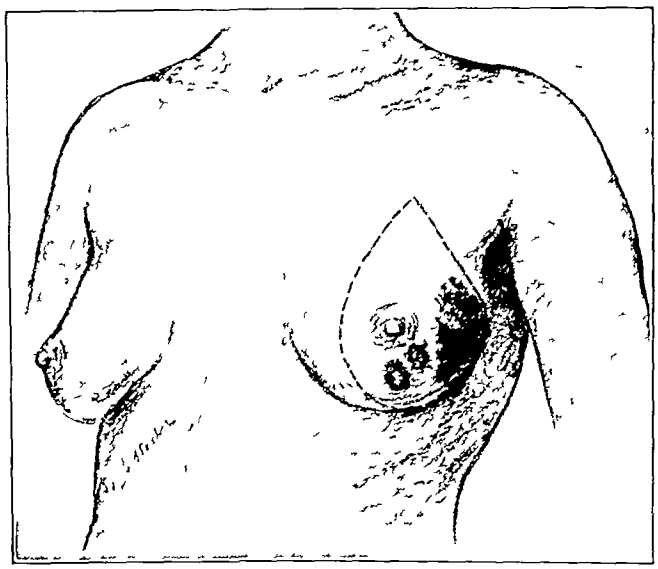
The past history revealed nothing of interest The patient had led an active, vigorous life, and from the period of children's diseases, the names of which she could not remember, until she broke her ankle, a year previous to this illness, had seen little of physicians She was sure she had never had scarlet fever For some years, however, she had been troubled with a vague type of indigestion, consisting chiefly of heartburn and some gaseous eructations, and occasionally with attacks of pain under the right costal margin With several of such attacks there had been nausea and vomiting, but these occurrences had disturbed her little and had caused no anxiety She had never been jaundiced

The condition for which she sought relief appeared first as a small, bluish discoloration just above the left nipple two days after she had been allowed to get up from bed after a light case of bronchopneumonia The discoloration was noticed by her physician when he was going over the chest and examining the lungs He noticed that there was a small lump just beneath the region of the nipple at that time, and the next day that the lump was larger and that the discolored area had extended to the region below and external to the nipple No glands were felt in the axilla, but he thought that the nature of such a lesion in a woman of 55 should be definitely determined, and therefore referred her to the hospital for examination and treatment There had been no pain associated with the onset or course of the disease

*Examination*—The patient was stout, well developed and of healthy appearance The head, extremities and abdomen were normal Examination of the thorax showed rather large pendulous breasts and a discolored area below and external to the left nipple, evidently an underlying hematoma Palpation of this region revealed a considerable mass in the breast substance This mass lay at the edge of the pectoral muscle, it was firm and irregular, and about the size of a pigeon's egg It was not attached to the skin or to the underlying muscle, and it was not tender There were no glands palpable in the axilla The discoloration was irregular, there was an area about the size of a fifty-cent piece below and just medial to the nipple, and a larger discoloration covering practically the entire outer third of the breast, as indicated in the accompanying illustration

Examination of the heart showed no increase in size, the sounds were regular and of good quality, there were no murmurs The systolic blood pressure was 230, diastolic, 120 These limits were repeatedly found by different observers The lungs showed a few rales in the lower right chest, no other pathologic changes were noted

Roentgen-ray studies of the thorax, kidneys and gallbladder revealed nothing abnormal The laboratory studies of the urine showed a urine consistently normal, with specific gravity around 1 016, no albumin, no sugar, and rarely a white blood corpuscle The phenolsulphonephthalein output was 55 per cent Blood studies revealed hemoglobin, 90 per cent , white blood corpuscles, 17,200, red blood corpuscles, 4,464,000, polymorphonuclear leukocytes, 77 per cent , lymphocytes, 19 per cent , mononuclear leukocytes, 2 per cent , eosinophils, 2 per cent The red blood corpuscles and the platelets appeared normal The bleeding time and coagulation time were normal



Area occupied by hematoma and line of incision

It seemed that we were dealing with a case in which there was obvious hemorrhage into the left breast The rapidity of onset of the lesion, the absence of trauma, the age of the patient and the physical findings led us seriously to question whether the lesion could be malignant disease The only other outstanding finding was the consistently high blood pressure, and the possibility that the indigestion symptoms were associated with some cardiac condition Under these circumstances, it seemed wisest to watch progress of the lesion for a definite period before taking any definite step After a week's rest in bed with daily observation it was evident that although the discoloration was rapidly disappearing from the breast a small mass remained in the left outer quadrant that became increasingly discrete and separate, and that this mass could be identified as a definite structure There was, however, no retraction of the skin and no evidence of fixation to the underlying muscle, nor did palpable glands develop in the axilla As we had no previous knowledge, at that time, of such a thing as apoplexy occurring in the breast, it seemed reasonable to presume that we were dealing with an early parenchymatous tumor of the breast, because of which, and probably into which hemorrhage had occurred Operation was therefore advised and accepted

* From the surgical clinic and pathologic laboratory of the Peter Bent Brigham Hospital

*Operation and Result*—April 9, 1923, twelve days after the first appearance of the discoloration, under gas-oxygen preceded by 0.015 gm. of morphin, the breast itself was excised first, a skin incision being used that could be followed by a radical and complete dissection of the axilla if further and microscopic study justified this. On removal of the breast, it was carefully gone over by the pathologist, Dr. S. B. Wolbach, and multiple cross-sections for gross study were made. No abnormal tissue leading to even a suspicion of tumor could be found. The wound was closed, and the patient made an entirely satisfactory, immediate recovery. Nine days later, the patient was discharged from the hospital with the wound entirely healed and in good condition.

*Pathologic Examination*—Dr. Wolbach reported that the specimen consisted of a left breast and two small portions of pectoral muscle. The pectoral muscle was considerably traumatized, and there was hemorrhage between the fibers. It was difficult to say how much of this was due to trauma. One of the pieces of pectoral muscle seemed somewhat firmer than normal and had a white streak running through it. The breast weighed 560 gm. It was covered by a diamond-shaped piece of skin, 20 by 11.5 cm. On the inferior surface of this piece of skin was a discolored area, the discoloration being blue, red, yellow and green, as occurs in disintegration of blood; it measured about 10.5 by 4.5 cm. In addition to this there was discoloration about the nipple, and leading up to the upper surface of the breast was a streak of some type of discoloration measuring 2 by 6 cm. On sectioning the breast tissue proper, one saw hemorrhage infiltrating the breast in all directions, separating the lobules of fat tissue. The area in which the original tumor was felt was very firm and hard. This area measured 2.5 cm. in diameter. It was made up of the same type of fat tissue, except that in this area there were areas of fat necrosis. It was thought that the reaction of the fat entirely explained the firmness of the tissue.

Frozen section was not made, because it was not possible to determine the site of any tumor, if any existed. Pieces of various portions of the breast and pectoral muscles were fixed in Zenker's solution. It may be said that the breast was markedly involuted. There were no cysts. The only possible conclusion was that a hemorrhage was the sole lesion.

There were six different sections, including one of the pectoral muscles and five areas of breast tissue. Microscopically, they all showed extensive hemorrhage, recent and old. The muscle showed extensive recent hemorrhage with separation of its fibers and areas of waxy degeneration, which must have existed before the day of operation. Besides fresh blood, there was a considerable amount of fibrin deposited between the muscle bundles, and organization of the hemorrhage was just beginning in a few places. Arteries of large size were normal. Numerous veins of small size showed a proliferation of the intima, and the majority of the small veins showed heavy infiltration of the walls with polymorphonuclear leukocytes. Capillaries between the muscle fibers frequently contained polymorphonuclear leukocytes in large numbers. These blood vessel changes, however, could probably be accounted for by partial stasis of circulation. The necrosis attending infectious lesions was absent. In the breast there were areas of fresh hemorrhage in fat and fibrous tissue. In both locations there were areas of hemorrhage undergoing organization. In numerous places the organization of the hemorrhage had progressed almost to cicatrization, and it did not seem possible that the date of onset as given by the clinical history could be right. Certain areas of cicatricial tissue contained many hemosiderin-laden phagocytes and certainly represented a process of more than one week's duration. At the periphery there was hemorrhage with the usual findings in a rapidly organizing lesion, no capillary formation but multiplication of fibroblasts and many mononuclear phagocytes. Some of the old areas with a thick zone of organization at the periphery showed dense fibrin in the interior. The blood vessel changes noted in the pectoral muscle were not nearly as prominent. Here and there, small veins showed infiltration of the walls. In one section, a vein of large caliber showed the entire circumference lined with a thin layer of fibrin, which in one place extended into the media. There was a slight reaction on the part of the endothelium, with partial investment of the mural thrombus. In three sections there were groups of atrophic glands, such as are customarily found in an involuting breast. In one such area there was a recent infiltration of blood. The arteries were practically normal throughout the breast tissue. In spite of the repeated study of these sections, the pathologic change could be summed up as recent and old hemorrhage. A few arteries of size in the breast and muscle tissue seemed to exclude arteriosclerosis as a factor. The changes described in the veins seemed to be the result, rather than the cause, of hemorrhage.

## COMMENT

The occurrence of large hematomas in fatty tissues without antecedent trauma, local disease or some underlying blood diathesis, such as hemophilia, is extremely rare. No similar case can be found in the records of this institution, though there was one case of a woman of 57 who had a high blood pressure (190 systolic), and who, following a slight injury (hitting her thigh against a table), had a considerable hematoma out of all proportion to the injury to the thigh. Nor can I find any similar cases in the literature. It seems definitely established in this case that there was no local disease or underlying blood disturbance. The elevation of blood pressure was so high that it certainly could be taken as a sensible factor in the hemorrhage, and I am inclined to believe that it was the chief factor in the case reported. Although no great amount of arteriosclerosis is present in the microscopic sections studied, it is barely possible that there was some sclerosis in the larger vessels, and that one of these was ruptured by the movement of a heavy breast with some change of posture.

The fact that the greatest area of hemorrhage, as determined both by the preoperative examination and by cross-sections of the breast after its removal, was in that portion of the breast just at the edge of the pectoralis major muscle, brings up the possibility that one of the larger vessels, which come through just at the edge of the pectoralis major muscle, was ruptured by sudden muscle action, perhaps aided by movement of the breast in the opposite direction. The histologic picture leads one to think that the recent hemorrhage may have been preceded by a smaller extravasation of blood, possibly from the same vessel. Unfortunately, a careful search and repeated sectioning through the involved area of the breast did not reveal any atheromatous or other degenerative changes in the vessels.

The case is cited not only because of its unusual aspect, but also because this condition may closely simulate tumor. There seems to be no possible way of differentiating the conditions, since it would have been quite possible in such a case for a small tumor to exist and be quite unrecognized. We should presume that had this patient not submitted to operation a lesion might have resulted, similar to that described by Lee and Adair[1] as traumatitc fat necrosis, because one can readily see that, with the healing of this hematoma, there might have occurred a palpable, connective tissue mass and even a dimpling of the skin overlying it.

721 Huntington Avenue

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# LONGITUDINAL RESECTION OF THE LESSER CURVATURE

## WITH RESECTION OF PYLORIC SPHINCTER FOR GASTRIC ULCER AN EXPERIMENTAL AND CLINICAL STUDY *

ALFRED A STRAUSS, M D

CHICAGO

In 1915, in the case of an ulcer that extended along the entire upper two thirds of the lesser curvature of the stomach on its posterior wall, I removed the entire lesser curvature, as this seemed the most expedient procedure at the time of operation At the same time, I performed the routine resection of the pyloric sphincter muscle The excellent clinical end result in this and a number of similar cases led me to study experimentally the physiology of the stomach after removal of the lesser curvature and the pyloric sphincter muscle

Von Schmieden [1] performed a similar operation in 1921, but he included transverse resection of the pyloric antrum This is objectionable in that an hour-glass contraction may follow, and the operation is almost as extensive as the Billroth II or Polya operation Neugebauer [2] also reports a similar operation, in which he extirpates a part of the stomach as extensive as in subtotal resection of the Polya or Billroth II type

### EXPERIMENTAL FINDINGS

Three groups of six dogs each and one group of three dogs were studied In all of these the normal emptying time was carefully noted under the fluoroscope and by roentgenograms before any operation was performed

In the first six animals, the pyloric sphincter muscle was resected in the following manner The pylorus was grasped between the thumb and index finger and a longitudinal incision made through the muscularis to the mucosa, extending through the pyloric ring and backward on the pyloric antrum for about 1 inch (Fig 1 *A*) A few strokes with the scapel, between the muscularis and mucosa, freed the mucosa so that it bulged and separated the muscularis from it (Fig 1 *B*) A similar incision, at right angles to the first one, was carried through the pyloric ring, extending around almost half of its circumference (Fig 1 *C*) By excising on each side a triangular piece of muscle, with its base at the pyloric ring and its apex at the pyloric antrum (Fig 1 *D*), I removed a single triangle of sphincter and pyloric antrum muscle, extending almost around half of the circumference of the sphincter and about one third of the circumference of the pyloric antrum (Fig 1 *E*) A small flap of the omentum from the lesser curvature was brought over the exposed mucosa and sutured to the muscularis (Fig 2)

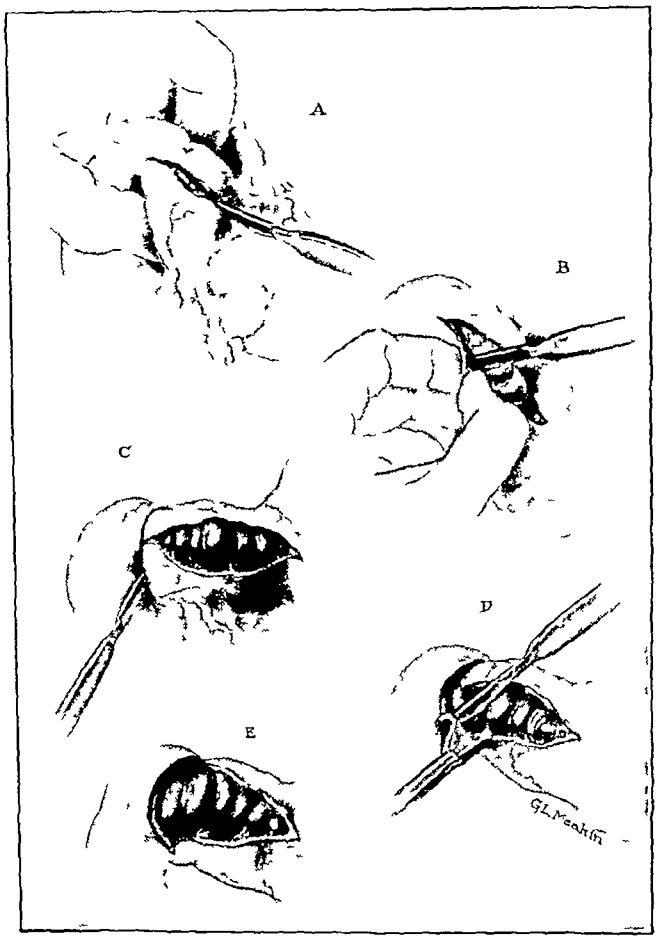


Fig 1.—*A* longitudinal incision through the pyloric musculature down to the mucosa *B* freeing of muscularis from mucosa *C* incision at right angle to first incision through pyloric ring *D* cutting away the freed muscle *E* triangular area of muscle removed from pyloric ring and pyloric antrum

Fluoroscopic study revealed that the emptying time for these animals was from 35 to 45 per cent shorter after operation than before the sphincter muscle was resected At the end of three and six weeks, the emptying time still remained from 35 to 45 per cent shorter than normal It was also noted that the peristaltic waves in all these animals were more shallow than before the sphincter was removed, and the stomach emptied rapidly with very little effort The bismuth meal poured through the paralyzed sphincter, only a few waves being noticeable in the pyloric antrum or lower portion of the stomach

My deduction is that the intensity and depth of the peristaltic waves are in direct proportion to the amount of resistance at the pyloric sphincter This is easily demonstrated clinically by the deep and intense waves one sees in the stomach in the obstruction of a congenital pyloric stenosis, or in a pylorospasm due to hyperacidity or duodenal ulcer or in reflex pylorospasm, and the shallow waves seen in achylia gastrica In the small intestine, when there is gradual chronic obstruction, the peristaltic contractions become more violent in direct proportion to the gradual obliteration of the lumen of the bowel The emptying time is in direct proportion to the sphincter resistance at the pylorus

I repeated experimentally other pyloroplasties that have been described, such as the Heineke-Mikulicz, in which the sphincter muscle was not actually cut away These procedures did not shorten the emptying time, and I have shown definitely by experiments that the only way to shorten the emptying time of the stomach is to destroy the sphincter action of the pylorus, that is, to remove almost one half of the sphincter muscle of the pylorus and antrum A simple incision through the pylorus, such as the Ramstedt or the plastic operation

* From the Nelson Morris Memorial Institute for Medical Research and the surgical service of the Michael Reese Hospital

1 Von Schmieden Ueber die Exzision der Magenstrasse Zentralbl f Chir 48 1534 1921

2 Neugebauer Friedrich Die Langsresektion des Magens bei hoch sitzenden Ulcers der kleinen Kurvatur Beitr z klin Chir 122 369, 1921

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removed, and were taken up again at the duodenum, but the stomach emptied very slowly, having an average retention of six hours I therefore assumed that one side of the musculature of the stomach must be left intact in order to get a short emptying time, and that interruption of the peristaltic wave interferes with the emptying time of the stomach

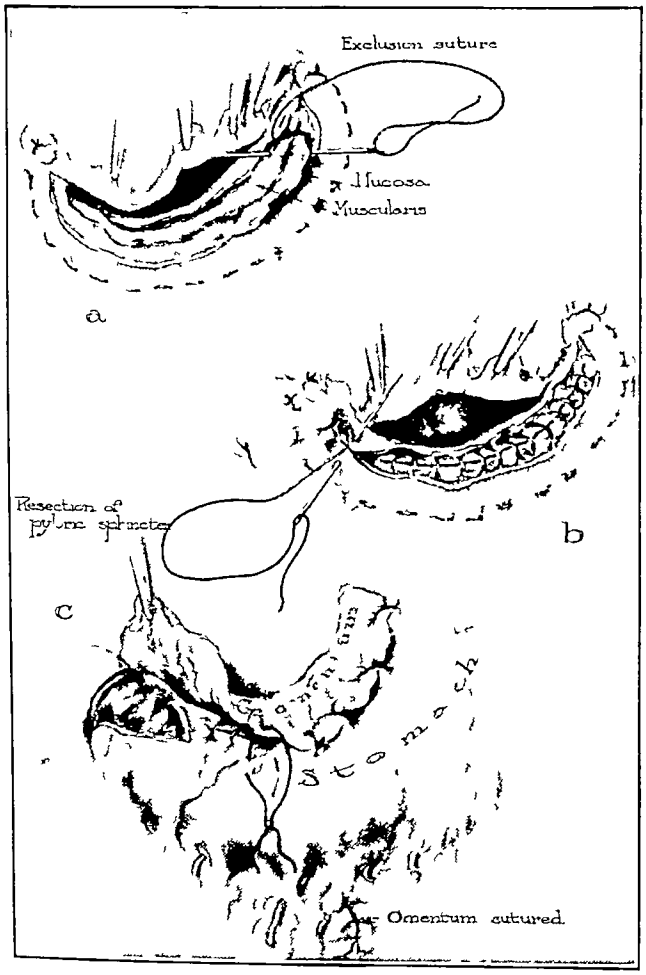


Fig 5—*a* longitudinal closure of mucosa by over and over stitch *b* longitudinal closure of the muscularis by simple over and over stitch *c* covering sutured area by omentum from the greater curvature

Necropsy showed that the newly constructed lesser curvature had an excellent blood supply, with perfect union throughout, and the mucosa along this area healed so perfectly that no scar could be found microscopically (Fig 7) Though the stomach appeared to be somewhat narrow after longitudinal resection of the lesser curvature, within from three to six months the physiologic function and the accommodation of food had helped the organ to regain almost its normal size and shape In the sphincter resection of the pylorus with the omental covering of the mucosa, the omentum had become somewhat thickened but protected the mucosa perfectly, and the triangular area in which the muscle had been resected had remained just as at operation

Experimentally, as well as clinically, V-shaped resections of the lesser curvature give the stomach a much shorter lesser curvature, and form a U-shaped stomach In these cases, the waves on the greater curvature are intense and deep but cannot force the food forward through the pylorus, and the stomach has a long emptying time—more marked in man than in the dog The physiologic explanation is that, to facilitate grasping the bolus of food, for each segment of the greater curvature there is a corresponding segment on the lesser curvature This relationship is retained on longitudinal resection, but it is lost in V-shaped resection Therefore, excellent clinical results have been obtained in longitudinal resection, and poor clinical results in V-shaped resection

## CLINICAL FINDINGS

Clinically, any surgical procedure for gastric or duodenal ulcer, in order to be successful, must obey two laws These laws are first, that all pathologic conditions in the organ must be removed, second, that after operation the stomach and duodenum must have a normal or shorter than normal emptying time If the pathologic condition is not removed, although an operation has been performed by which the stomach does have a normal emptying time, the patient suffers from the ulcer that has been left in the stomach or duodenum If the pathologic condition has been removed and an operation performed through which the stomach does not empty in normal or shorter than normal time, the patient suffers from partial retention, with nausea, heartburn, eructations, sweating, discomfort and fulness With few exceptions, gastro-enterostomy alone has no place as a surgical procedure in either gastric or duodenal ulcer, for fluoroscopic examination of a large number of patients after operation has definitely demonstrated that it does not shorten the emptying time or

Fig 6—Bismuth pouring through the paralyzed sphincter ten minutes after meal in an animal with pyloric sphincter resection

remove the pathologic condition The other operations to consider that fulfil these laws are the Billroth I, the Billroth II, and the Polya operations The Billroth I is practicable only in those lesser curvature ulcers that are near the pyloric antrum, the Billroth II is practicable in the high lesser curvature ulcers, but it involves

removal of from 75 to 85 per cent of the stomach I have done a large number of these higher resections of the stomach, but there can be no question that the operation is an extensive one and is bound to give a higher mortality than the lower resection, and is not a procedure that every surgeon can master It does not seem

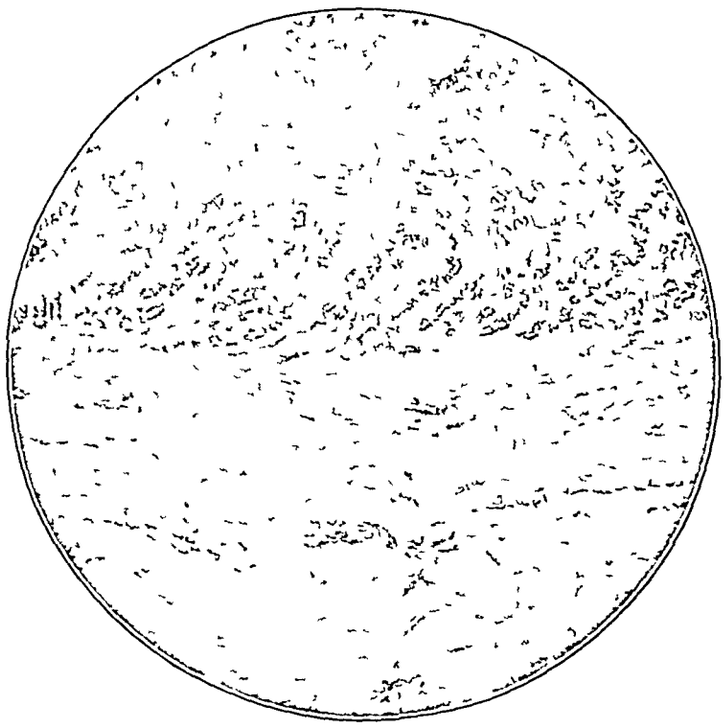

Fig 7—Excellent blood supply and perfect union of mucosa and muscularis in newly made lesser curvature

reasonable that, for a lesion the size of a half-dollar on the lesser curvature, 80 per cent of an important organ like the stomach should be removed

From 1915 to 1918, I performed simple excision of the ulcer, with sphincter resection of the pylorus, in a large series of lesser curvature ulcers Subsequent study revealed in many cases an ulcer, recurring at or near the site of excision I assumed, therefore, that the ulcer excision was not wide enough and that not enough of the inflamed area of the stomach had been taken away Hence I decided to do the present experimental work, and clinically to remove the entire lesser curvature for lesser curvature ulcer in well selected cases

There can be no question that 95 per cent of all ulcers occur along the lesser curvature on the posterior wall, and excision of both the anterior and posterior walls of the stomach along the lesser curvature removes not only the ulcer but also an area in the stomach in which ulcers commonly occur Excision of the lesser curvature, with sphincter resection and a plastic operation on the anterior and posterior stomach walls, accomplishes everything that a high Billroth II resection accomplishes, namely, it removes the pathologic condition and gives the stomach a shorter than normal emptying time In addition, the patient has practically a normal stomach, with the normal anatomic and physiologic relationship of stomach and duodenum The operation certainly cannot compare in magnitude with a high resection of the Billroth II or the Polya type The resection of the lesser curvature, with the plastic operation on the stomach, is a thirty-five minute operation, and the pyloric sphincter resection takes about three minutes So, from a standpoint of shock and the seriousness of the procedure, the longitudinal resection of the lesser curvature with sphincter resection seems by far the simpler procedure and is preferable

I have performed lesser curvature resection in twenty-one cases, the oldest one of which dates back to 1915 Figure 8 is a roentgenogram of the stomach eight years after operation There was no recurrence of ulcer or symptoms in any of these cases There was no mortality, every patient made an uneventful recovery, gained in weight rapidly and was on a full diet within from six to eight weeks, and none of the patients complained of heartburn or fulness They required no medical attention or treatment after operation On fluoroscopic examination six weeks after operation, the stomach in each case was somewhat narrower than normal, but had an emptying time of from 25 to 35 per cent shorter than normal

In four of my early cases, a narrowing of the stomach, simulating an hour-glass contraction, was seen after operation at a point opposite the former location of the ulcer This did not occur in the resected normal stomach of experimental animals The narrowing was apparently functional, since the patients had no symptoms of hour-glass contraction, and the stomach emptied sooner than normally To prevent narrowing, in all of my cases I perform a plastic operation to increase the distance between the lesser and greater curvatures The technic is as follows A longitudinal incision is made on the anterior wall of the stomach, through muscularis and mucosa, equidistant between the curvatures and parallel to the lesser curvature (Fig 9) This incision is transformed into a transverse incision by traction in opposite directions at its central portion (Fig 10), and is then closed in layers (Fig 11) The same thing is done on the posterior wall

The patients for the first few weeks complained of great hunger, due to the rapid emptying of the stomach,

Fig 8—Stomach eight years after lesser curvature resection

which, however, adjusts itself within from six to eight weeks From four to six months after operation, the emptying time ranges from 25 to 35 per cent shorter than normal, and one can see under the fluoroscope, just as in the animal, that the stomach is of normal contour and empties with very little effort, the contractions are

shallow, and the bismuth meal pours through the pylorus

This, I believe, is ideal In a stomach that has had a chronic ulcer we know that the retention of food with increased chemical irritation has a tendency to keep the ulcer chronic In fact, the very object that the internist

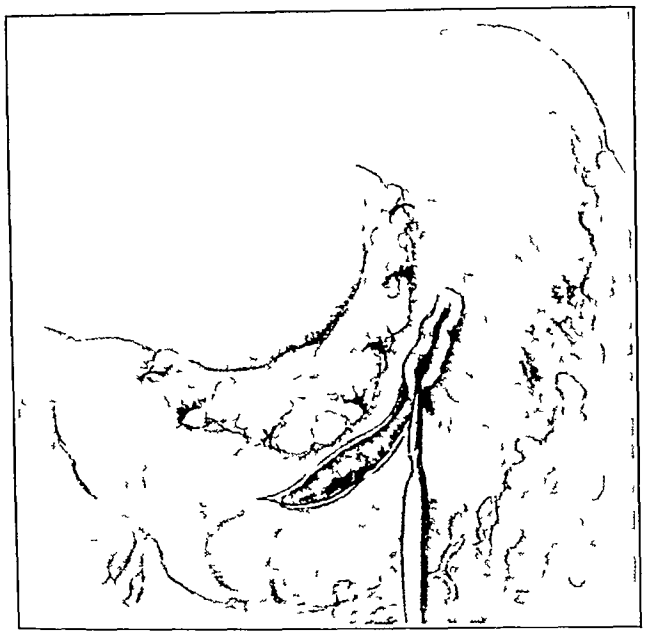

Fig 9—Cutting the stomach longitudinally for plastic operation on stomach after resection of lesser curvature

tries to attain in his medical treatment is to neutralize the acidity and relieve the pylorospasm In other words, sphincter resection, in addition to removing the pathologic condition by cutting away the lesser curvature, gives the stomach a shorter than normal emptying time, and the stomach empties with the least possible effort, no chance remaining for chronic irritation and for accumulation of hydrochlorid acid

In the case in which operation was performed eight years ago and in one case of six years ago, the emptying time is still from 25 to 30 per cent shorter than normal There are no symptoms of ulcer or retention, the first patient having gained 45 pounds (20 kg ) and the other 30 (13 6 kg ) on a full diet, pursuing the normal course of life and work I believe that the true clinical test of a surgical cure for gastric or duodenal ulcer is that the patient must be pursuing his normal work in life, on a full diet, free of symptoms, with a gain in weight

In the case of a large leiomyoma along the lesser curvature, extending within half an inch of the esophagus and within one inch of the pyloric ring, the lesser curvature was resected While the patient had no symptoms of retention, fluoroscopic examination revealed a very long emptying time But at the end of one year, the emptying time was shorter than normal, and now, three years after operation, is less than three hours with a bismuth meal

In lesser curvature ulcers of long standing, when there has been marked pylorospasm with the production of a thickened or hypertrophied stomach wall, especially in the pyloric antrum and pylorus, I believe longitudinal resection of the lesser curvature, with resection of the pyloric sphincter and a plastic operation on the anterior and posterior stomach walls, to be the operation of choice, provided the ulcer is not too large and the surrounding infiltration is not too extensive In the latter case, high subtotal resection is preferable

Resection of the pyloric sphincter is of advantage also in cases of long standing pylorospasm, due to causes other than ulcer, in which there is a marked tumor-like hypertrophy of the pyloric antrum and pylorus, similar to that seen in congenital pyloric stenosis Pyloric sphincter resection was preferable to gastric resection, and gave remarkable results, in a case of resection of a large gastrojejunal ulcer, in which I performed an end-to-end anastomosis of the jejunum after undoing a gastro-enterostomy

## CONCLUSIONS

1 Experimentally and clinically, the emptying time of the stomach is shortened by resection of the pyloric sphincter muscle

2 The intensity and depth of the peristaltic waves are in direct proportion to the amount of resistance at the pyloric sphincter Therefore, following sphincter resection, the stomach empties with the least possible effort

3 Longitudinal resection of the lesser curvature, with a plastic operation on the anterior and posterior stomach walls, does not materially affect the emptying time of the stomach, on the contrary, the normal contour of the stomach is regained and retained, and the propelling force of the stomach is not hampered

4 The extrinsic and intrinsic nervous mechanisms in resection of the lesser curvature play very little rôle in the character of the peristaltic waves or in the emptying time

5 Ligation of the lesser curvature arteries above and below the point of resection has no effect on the blood supply of the newly made lesser curvature, since the

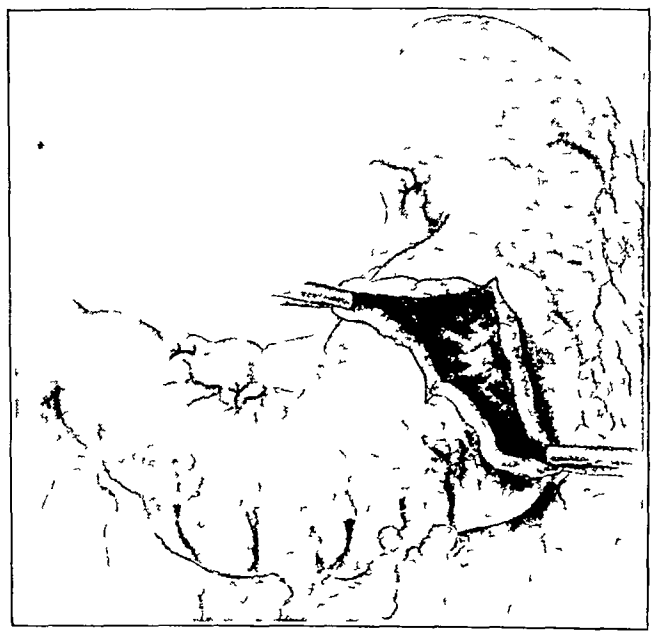

Fig 10—Transformation of the longitudinal into a transverse incision so as to widen the distance between the lesser and greater curvatures

collateral circulation is ample, as is shown by perfect primary union in both animal and man

6 Longitudinal resection of the lesser curvature with pyloric sphincter resection has given excellent clinical end-results for eight years, with no mortality, and the operation is much more simple than any of the opera-

tions that deal with stomach resection or even gastroenterostomy

7 The operation I describe is particularly fitted for small ulcers high on the lesser curvature, with little infiltration of the stomach wall, especially when there has been hypertrophy of the pyloric antrum and sphincter

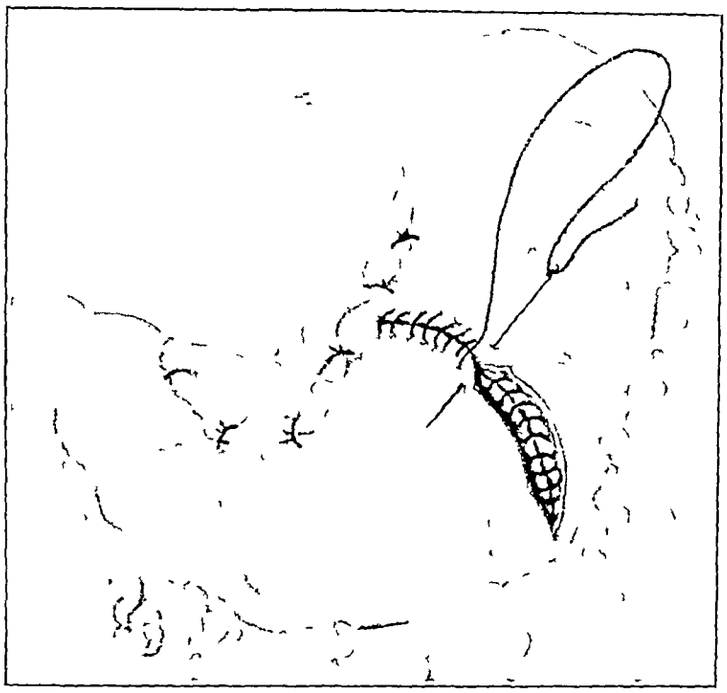

Fig 11.—Closing the transformed incision

8 Longitudinal resection of the lesser curvature removes not only the ulcer but also the area in which 95 per cent of gastric ulcers occur

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## GANGLIONEUROMA OF THE CERVICAL AND THORACIC SYMPATHETIC GANGLIONS*

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The cases reported here are presented to call attention to the clinical aspects of a rare type of neoplasm, which has been studied chiefly heretofore from its histologic and pathologic aspects. There must have occurred many more cases in this country than have been described, and it is to be hoped that more of them will be recognized and studied so that our knowledge of the biologic behavior of the neoplasm may increase. Of the two new cases dealt with in this communication, one seems to have come from the cervical and the other from the thoracic sympathetic ganglions. Accordingly, all the ganglioneuromas occurring in those situations of which records could be found have been studied together with them, so that this paper may be said to contain a summary of most of the known clinical observations that have been made. The best studies of ganglioneuromas in English are contained in the papers of Dunn[1] and Wahl,[2] and the following brief description is taken from those sources.

Ganglioneuromas are neoplasms composed chiefly of adult sympathetic ganglion cells, enormous numbers of neurofibrils usually without any myelinated sheath, sheath of Schwann cells, and connective tissue. The ganglion cells, which multiply amitotically, are sometimes small, with a single nucleus. Often they are much larger, with several nuclei, and these are supposed to be degeneration forms. They may be unipolar, bipolar or multipolar. They are found sometimes singly scattered among a tangled mass of nerve fibrils, sheath of Schwann cells and connective tissue cells, sometimes in groups of fifteen or more enclosed in semicystic areas partly filled with degenerating nerve fibrils. The nerve fibrils, as stated, are usually naked axons, although in some tumors occasional fibers with myelin sheathes are reported. The fibers are always in much greater numbers than could be supposed to have come from the number of ganglion cells found at the time of examination. This is accounted for by supposing that there have been many previous generations of ganglion cells in the neoplasm which have disintegrated and disappeared, but have left their fibrils behind them. It has also been hypothecated that fibrils can be formed by Schwann cells, and that existing fibers may split longitudinally, both of which processes would increase the actual number of fibers. Although, in cases reported, special stains have been used to demonstrate the existence of the various specialized types of cells and tissue, the morphologic picture is so uniform and characteristic that the diagnosis can be made in ordinary routine microscopic sections at a glance by those who have only seen photographs or drawings of the neoplasm.

Grossly, they are usually firm, fibrous and circumscribed but not definitely encapsulated. The cut surface often has a pale, yellowish tint, occasionally there are red areas and areas of degeneration. Metastases are uncommon. Berner[3] has reported a left suprarenal ganglioneuroma, in a girl, aged 4½ years, which had metastases in the regional lymph glands of adult

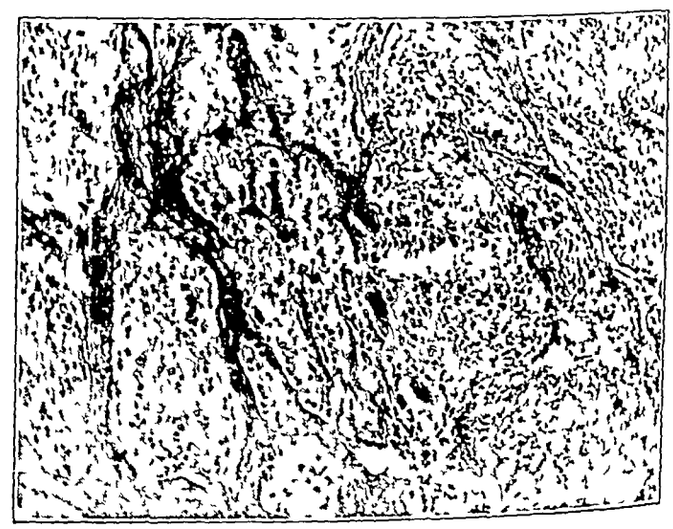

Fig. 1 (Case 1).—Characteristic architecture of a ganglioneuroma. The broad trabeculae are composed very largely of neurofibrils in parallel bundles, with some connective tissue and occasional ganglion cells; the spaces they enclose contain ganglion cells of varied sizes and shapes, small rounded cells, and a tangle of neurofibrils.

ganglion cells and neurofibrils. The other cases in which there have been metastases have all been associated with neuroblastomas (tumors arising from undifferentiated nerve cells), and it has been the neuroblastomatous elements alone that have metastasized

* From the Surgical Pathological Laboratory of the Presbyterian Hospital.

1. Dunn, J. S.: Neuroblastoma and Ganglio-Neuroma of the Suprarenal Body, J. Path. & Bacteriol. **19**: 456, 1914-1915.
2. Wahl, H. R.: Neuroblastomata, J. M. Res. **30**: 205, 1914.
3. Berner, J. H.: Ein Fall von malignem Ganglioneurom, Beitr. z. path. Anat. u. z. allg. path. **70**: 203, 1922.

The large majority of reported cases have been single, in five or six instances there have been multiple nodules The distribution of reported cases coincides with the distribution of the sympathetic system, the greater number have been associated with the suprarenal medulla or the lumbosacral sympathetic chain A few cases have been reported that seem to have come from the cerebrospinal system, although these are open to question They have been found at all ages, but seem to be more frequent in the first three decades of life The course is one of slow but progressive growth, with a shoving aside of adjacent structures rather than infiltration

### CERVICAL CASES

The first case to be reported seems to have been associated with the superior and middle sympathetic ganglions Before it is detailed, the six other cases of which records exist in the literature will be summarized

1 Glinski's[4] patient was a girl, aged 10 years, whose mother noted a small tumor on the left side of the neck when the child was 7 months old It grew slowly but steadily When it began to make respiration difficult, the mother sought medical relief On examination there was found a deeply situated tumor extending from just below the ear to the clavicle The trachea was displaced 3 cm to the right It was firm but slightly movable, with an irregular surface It was not connected with the thyroid There were no symptoms referable to the nervous system At operation it was found to extend from the submandibular lymph gland down to the clavicle and back to the cervical vertebrae The trachea was pushed to the right, and the large vessels forward and to the right Enucleation was easy No adhesion was noted to any ganglionic structures After removal, the blood vessels and trachea resumed their normal positions The wound healed, and the patient left the hospital well At no time was any disturbance of the sympathetic nervous system noted Examination of the tumor showed a mass 9 by 6 5 by 3 5 cm, encapsulated, and the cut surface showed grayish, interlacing striations like a fibromyoma Microscopic sections showed ganglion cells, Schwann cells, nonmedullated nerve fibrils with a few solitary medullated ones, a small amount of connective tissue, and blood vessels Glinski thought that it might have come from an embryologically displaced ganglion or displaced ganglion cells

2 Benda's[5] patient was a child with an inoperable tumor in the right side of the neck It was the size of an apple and lay in the sheath of the vagus, with the vagus behind it He thought it might have come from the vagus ganglion It was encapsulated and had calcified areas in it Microscopically it was characteristic No vagus fibers could be found in it

3 Woods'[6] patient was a man, aged 32, who died with tuberculosis of the lungs, the pharynx, the intestine, and lymph nodes on both sides of the neck At necropsy, in the region of the lower extremity of the right parotid gland and extending into the submaxillary and retromandibular regions, was a soft, encapsulated mass about the size of a man's fist It reached to the base of the skull without being attached to the bone It pressed the larynx and posterior part of the tongue over toward the left It measured 9 by 8 by 4 cm The internal carotid jugular and vagus lay on its lateral aspect, not closely connected with it It had the characteristic microscopic picture without myelin He supposed that it came from the superior cervical ganglion

4 Martius'[7] patient was a boy, aged 2½ years, operated on because of a tumor in the right side of the neck which pressed on the trachea The clinical diagnosis was malignant tumor of the thyroid At operation it was found to extend from the region of the right lobe of the thyroid down behind the clavicle into the thoracic cavity It had completely surrounded the great vessels at the root of the neck, and the subclavian artery was injured during attempted removal Shortly after operation, the boy died At necropsy it was found to compress the superior vena cava, and it was firmly attached to the bodies of the first and second thoracic vertebrae The trachea and both lobes of the thyroid were shoved over to the left side Parts of the tumor were neuroblastoma, part glangioneuroma and part neurofibroma The actively growing part of the tumor was the neuroblastoma, but there were no metastases The middle cervical to the first thoracic ganglions, inclusive, were included within the tumor mass

5 Freund's[8] patient was a boy, aged 5¾ years, who had had a swelling on the right side of the neck for one year, recently it had grown rapidly Three days before admission, there was air hunger Examination showed an egg sized swelling on the right side of the neck shoving the trachea to the left It did not move with swallowing At operation there was no connection with the thyroid gland, the carotid artery lay in front and internal to the mass, the jugular vein lay behind, the vagus nerve was not seen It was easily shelled out, with little bleeding Four days after operation, the Horner syndrome of

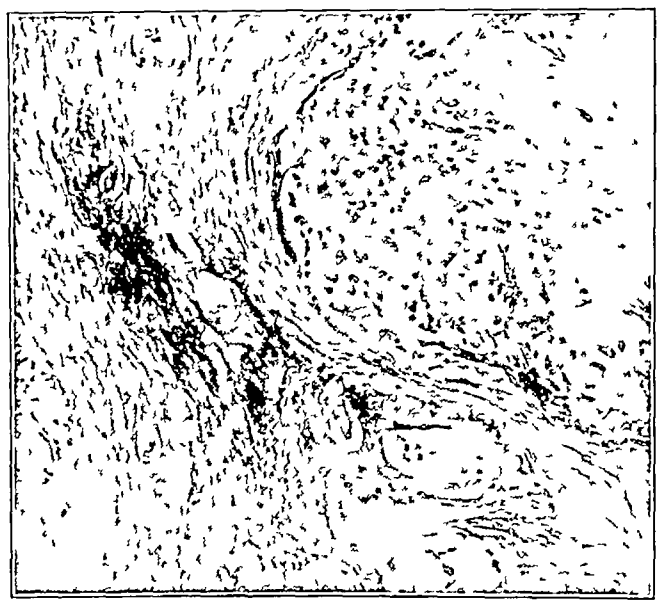

Fig 2 (Case 1) —On the right a large pseudocyst filled with ganglion cells in all stages of degeneration and a loosely woven tangle of neuro fibrils on the left dense trabeculae of neurofibrils enclosing some isolated ganglion cells and a few small pseudocysts

ptosis and miosis on the operated side was first noted Seven days after operation there was right sided anhidrosis, when the left cheek strongly sweat The right side of the forehead was paler than the left The right cheek was redder than the left Four months after operation there was no recurrence, and the symptoms were unchanged Microscopically, the tumor was characteristic Almost all the nerve fibrils were nonmedullated

6 Sommerfelt's[9] patient was a woman, aged 36, who suffered from migraine was nervous, and had a poor appetite Five or six years before operation a lump appeared in the left submaxillary region A physician called it a gland and gave her arsenic It grew slowly, and, four years before operation, two roentgen-ray treatments were given One year before operation, ten or twelve roentgen-ray treatments were given without effect Shortly before operation, the left eyelid was not as movable as the right Two days before operation a difference was noted in the pupils without any diminution in

4 Glinski L K O nerwiaku Zwojowym (ganglioneuroma) Wraz z opisem Wlasnego przypadku Przeglad lekarski Nos 44 and 45 1906 pp 733 and 747 (abstract from translation by Dr M Openchowski)

5 Benda C Ein Fall von Ganglioneurom des Nervus Vagus Verhandl d Deutsch path *Gesellsch* **1** *266 1904*

6 Woods C S Ganglioneuroma des rechtsseitigen Halssympathicus Prager med Wchnschr **31** 646 1906

7 Martius K Maligner Sympatholblastomtumor des Hals sympathikus teilweise aus differenziert zu gutartigem ganglioneurom Frankfurt Ztschr f Path **12** 442 1913

8 Freund Paula Ein Ganglioneuroma des rechten Halssympathikus Frankfurt Ztschr f Path **13** 266 1913

9 Sommerfelt L Et tilfaelde av ganglioneurom paa halsen Norsk Mag f Lægevidensk. **81** 911 (Sept) 1920 abstr J A M A **75** 1238 (Oct. 30) 1920 (translation from the Norwegian by Mr F Hanssen) Ein Fall von Ganglioneurom am Hals Zentralbl f allg Path u path Anat. **30** 641 (No 22) 1920

the sharpness of vision At operation, the tumor was excised It was goose-egg sized, encapsulated, grayish white with a yellow tint, and semitranslucent The consistency was soft elastic Four strands the size of a needle's eye passed out from the periphery of the tumor Microscopically, the tumor was characteristic except that there were no multinucleated ganglion cells Most of the fibers were nonmedullated, a few had myelin sheathes Sommerfelt questions whether these are true neoplasms or simply hypertrophies

AUTHOR'S CASE

CASE 1.—*History.*—E R, a girl, aged 2½ years, had as a baby snored while asleep three days after birth, and breathed peculiarly when awake At five weeks of age, a mass thought to be a gland appeared on the right side of the neck This had increased with throat infections, and decreased in the free intervals Adenoids were removed at 18 months, and tonsils at 2 years of age The swelling had been hard, and not red or tender A throat culture showed staphylococcus and streptococcus, a vaccine made from these was prepared, but failed to remove the lump

*Physical Examination.*—Extending from the right lower border of the lower jaw to the lower third of the neck was a soft, semifluctuating, not tender, somewhat irregular mass

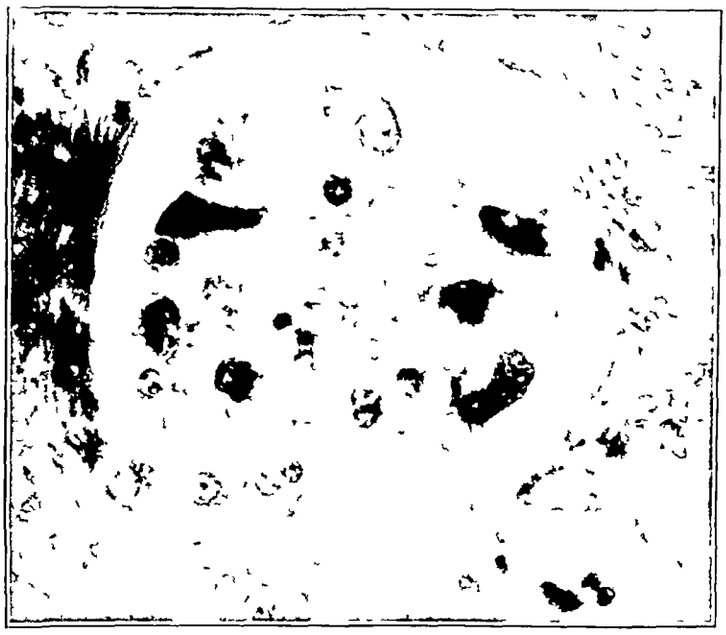

Fig 3 (Case 1).—A high power view of a pseudocyst showing ganglion cells in various stages of degeneration with indistinct cell outlines, the tangle of fibrils between the cells is well shown, at the left the dense fibrillated nature of the trabeculae is clearly seen

It reached the midline anteriorly and to the posterior border of the sternomastoid laterally The left side of the neck was normal Examination otherwise was negative

The clinical diagnosis was tuberculosis of the cervical lymph glands

*Operation.*—March 6, 1917, Dr C E MacWilliams found a mass filling up the submaxillary triangle and the middle half of the neck from the thyroid cartilage to behind the sternomastoid Posteriorly, it extended to the vertebral column The internal jugular was pushed far posterior, while the common carotid and its bifurcation into the external and internal arteries lay along the outer surface of the mass The spinal accessory nerve was seen, but not the vagus It was soft and somewhat adherent It was removed without much bleeding, being firmly adherent to the thyroid cartilage and the fascia in the region of the tonsil

*Pathologic Examination.*—A nodular mass, 7 by 4 by 3.5 cm, had a fairly smooth surface with a firm membrane which looked almost like a capsule The cut surface was grayish white and firm, with no sign of degeneration or caseation

The nature of this neoplasm was not recognized until recently As the gross specimen was not saved, no special stains were possible, and the description is made from sections stained with hemotoxylin and eosin On microscopic examination the sections showed a finely fibrillar ground substance with the fibrils running in parallel bundles, containing cells with elongated nuclei resembling fibrous tissue cells Caught in the meshes of this tissue were many large, irregular cells with a granular and fibrillated cytoplasm and a large spherical nucleus containing sometimes one and sometimes two or three nucleoli Some of the cells had one or more cytoplasmic prolongations exactly comparable to typical ganglion cells In many areas, the cells were gathered together in groups of from four to twenty or more Here many of them showed evidences of degeneration, such as loss of distinct cell outline vacuolization and increase in the size of the cell The larger cell forms had numerous nuclei The groups of ganglion cells were surrounded by tangled masses of very fine fibrils, and no connective tissue fibrils or Schwann cells were present In a few areas the typical ganglion cells were associated with large groups of much smaller rounded cells The nuclei almost completely filled the cell membrane, leaving only a small rim of cytoplasm about them These took a deep stain Although they did not resemble them morphologically, in other tumors these have also been shown by special stains to be ganglion cells No mitoses were seen The tumor was well supplied with small capillaries

*Subsequent Course.*—The child made a good recovery Two days after operation, it was noted that there was slight paresis of the right side of the face, with the mouth drawn toward the left There was ptosis of the right eyelid When she left the hospital, a note was made that she had dilatation of the right pupil which would not respond to light The paresis of the right side of the face and ptosis of the right eyelid persisted The condition was improving, although the pupil was still dilated

She was discharged in care of her physician, Dr William M Stone of Flushing, N Y, to whom I am indebted for the following information For a long time (possibly three or four years) after operation, the right pupil remained dilated Then it returned to equality with the left one, and when last examined, March 12, 1924, both pupils were equal and reacted to light An attempt to elicit the ciliospinal reflex failed on both sides The child is normal and in perfect health The child's father states that when she is very tired the right pupil is sometimes larger than the left

THORACIC CASES

The second case to be reported came apparently from the thoracic segment of the sympathetic Six other cases from this situation are on record, and they will be briefly summarized for the sake of comparison

1 Loretz'[10] patient was a woman, aged 35, brought into the hospital unconscious, who died before the history could be ascertained At necropsy, on the left side was a mass, which was closely adherent to the bodies of the second and third thoracic vertebrae It projected into the left thoracic cavity, where it was covered with pleura, and into the intervertebral foramina Its connection with the sympathetic was not noted When cut, it looked like the cross-section of a uterus This is the first case of ganglioneuroma reported in the literature

2 Borst[11] reported a case in which the age and sex of the patient were not stated There was a subpleural mass on the left side, the size of a child's head There was a characteristic microscopic picture Most of the nerve fibrils were non medullated

3 Von Rindfleisch's[12] case was cited by Borst, without any details

4 Tschistowitsch's[13] patient was a girl, aged 12 years, who died of generalized tuberculosis At necropsy there was found an unsuspected tumor extending from the fourth to the sixth thoracic vertebrae on the right side It was long and rounded, and the size of a goose egg It was closely bound to the body of the fifth vertebra, loosely to the fourth and sixth It raised the right parietal pleura The surface was smooth, the lungs were not involved Microscopically, it was characteristic, with

10 Loretz, W Ein Fall von gangliosem Neurom (ganglion), Virchows, Arch f path Anat **49** 435, 1870

11 Borst Die Lehre von den Geschwülsten Wiesbaden, 1902, p 241

12 Von Rindfleisch, cited by Borst Die Lehre von den Geschwülsten p 242

13 Tschistowitsch Russk Vratsch, 1908 abstr Deutsch Medizinalz **31** 319 (No 18) 1910

ganglion cells, degenerative changes and no myelin sheaths to the fibers

5 Friedrich's[14] patient was a woman, aged 73, who died in the hospital of cerebrospinal meningitis At necropsy there was found an unsuspected tumor, the size of a goose egg, on the right side in the region of the sixth to the eighth thoracic vertebrae It measured 7 by 2 8 cm It had the characteristic microscopic picture No medullated fibers were found

6 Edelman[15] and Rosenson[16] reported a case in a girl, aged 8 years, in whom cough, fever, progressive weakness and loss of weight were associated with what was thought to be an encapsulated effusion in the region of the upper right lobe of the lung At operation (which was done in two stages) a tumor was found springing from the upper right mediastinal region and the fascia covering the spine, from which it was easily separated It measured 8 5 by 6 75 by 4 5 cm, and was pale yellow, spherical and encapsulated The cut surface showed fibrous septums and small, hemorrhagic foci The microscopic picture was characteristic Following the operation, the child's general condition improved The cough diminished and she gained weight The right palpebral fissure and pupil were smaller than the left, and there was enophthalmos of the right eye Four months after operation, she was shown at the New York Academy of Medicine, Section on Pediatrics

AUTHOR S CASE[17]

CASE 2—*History*—A boy, aged 2½ years, was perfectly healthy until 7 months of age, when he began to have pain in the stomach region relieved by "injections" Four weeks later he began to cry every night There was no loss of weight Four months before I saw him he began to be unsteady on his feet and soon began to drag his right foot when he walked

Fig 4 (Case 2) —Situation of neoplasm in the superior right mediastinum

Then he grew so weak that he could not sit up Five weeks before he entered the hospital he lost control of the bladder and anal sphincters Otherwise he was a normal baby with normal developmental history

*Physical Examination*—There was marked dulness over the left upper lobe, front and back, with sibilant and sonorous rales and bronchial breathing The heart was not displaced A roentgenogram of the chest showed a dense shadow over the upper portion of the left lung which was thought to be a new growth There was marked anterior curvature of the thoracic vertebrae The cervical vertebrae were markedly fixed and rigid The child could not sit without support, but

Fig 5 (Case 2) —Section through entire thickness of piece of tissue found in the lumen of the exploratory needle, the ganglion cells and fibrillated trabeculae are clearly shown

fell toward the left Koenig's sign was present in both legs The reflexes were all present and active There was ankle clonus on both sides Sensations seemed diminished, there was no pain sense in the lower extremities, but it was marked in the arms The blood and the spinal fluid Wassermann reaction was negative

*Course*—Dec 10, 1915, four days after admission, a needle was put into the third left interspace in the anterior axillary line No fluid was obtained, but a piece of tissue remained inside the lumen of the needle Examination of this bit of tissue showed ganglion cells, neurofibrils and smaller rounded cells comparable to the microscopic description given in Case 1 (The nature of this neoplasm was not recognized until two years later ) The case was considered inoperable, and the patient left the Presbyterian Hospital Seven months later, in the early part of July, 1916, the child was operated on at the Neurological Institute, New York, by Drs Elsberg and Harold Neuhof, in an attempt to relieve the pressure on the thoracic cord, which had become progressively worse At that time there was found in the spinal canal, occupying the upper dorsal region and extending up into the cervical region, a very long, encapsulated tumor, extradural and continuous with the mass in the chest by an extension through an intervertebral foramen The child died shortly after the termination of the operative procedure, and no necropsy was obtained The piece of tissue was brought by Dr Neuhof to the surgical laboratories of the College of Physicians and Surgeons Microscopic examination of it was similar to that of the piece removed from the chest and to that from Case 1

COMMENT

*Eye Symptoms*—In Sommerfeldt's case alone were eye symptoms noted before operation, and these are reported in such a way as to leave one in doubt about them It does not seem entirely clear whether they are due to stimulation or to paralysis of the cervical sympathetic In three of the cases (two from the cervical and one from the superior thoracic), eye symptoms were noted after operation Two of these (Freund's from the neck and Edelman-Rosenson's from the upper thorax) showed the characteristic Horner syndrome of ptosis and miosis, which follows the interruption of the sympathetic pupillary fibers In Freund's case the symptoms had persisted for four months In Case 1 of this report, the notes in the history are somewhat con-

14 Friedrich J Ein Fall von Ganglioneurom des Sympathikus Frankfurt Ztschr f Path **10** 456 1912

15 Edelman L Ganglioneuroma of the Mediastinum Proc New York Path Soc **23** 47 1923

16 Rosenson William Ganglioneuroma of Mediastinum, Internat Clin **1** 178 1923 Neoplasms of Mediastinum in Infancy and Childhood Report of a Case of Ganglioneuroma of Mediastinum in a Girl of 8 Years Am J Dis Child **26** 411 (Nov ) 1923

17 This case was described in the Medical and Surgical Reports of the Presbyterian Hospital New York **10** 211 1918 but has never appeared in any journal

fusing Two days after operation, the patient seems to have had ptosis and miosis on the operated side Ten days after operation, the pupil on the operated side was dilated and remained dilated for several years, after which time it returned to normal There seems to be no doubt about this dilatation, as it is vouched for by Drs MacWilliams and Stone and the father of the patient I have been unable to find any satisfactory explanation of it It is possible that the fibers were injured during the operation without being divided, and that the dilatation was the result of stimulation I can find no other example of such an effect following an operation or injury in human beings, and in any case it seems scarcely credible that it should last for so long a time In Wilbrand and Sanger's textbook [18] there is a quotation that might possibly explain it They state that Langendorf has found a paradoxical dilatation of the pupil after experimental extirpation of the superior cervical ganglion

*Anatomic Peculiarities*—As the neoplasms arise from and extend along the course of the cervical and thoracic segments of the sympathetic system, their relations are just such as one would expect if these ganglions should become enlarged In the region of the superior ganglion they reach up to the region of the tonsil, push aside the tongue, and extend into the submaxillary fossa and behind the mandible Farther down, they may extend back to the vertebral column, behind the sternomastoid muscle, and regularly they push aside the internal jugular vein and the common carotid artery or its two main branches, usually separating them with the artery in front and the vein behind The vagus is always behind The trachea, larynx and thyroid may be pushed toward the unaffected side Lower down, they extend behind the clavicle into the mediastinum In the thorax, they extend from the bodies of the vertebrae forward either to the right or to the left, pushing the parietal pleura in front of them but not invading the lung Sometimes they may extend into or even all the way through an intervertebral foramen, and extend extradurally up or down the spinal canal, compressing the cord

*Treatment*—In the uncomplicated cervical cases it would seem that surgical removal should be relatively easy and should result in freedom from recurrence If we except the cases of Martius and Woods, which were complicated with other conditions, surgical removal was done in four of the other five Benda's case was said to have been "inoperable," but we are not told why In the four cases in which operation was performed, the late result is unknown in two, one went four months and one six and one-half years without recurrence

In the thoracic cases, if the diagnosis can be made early enough, the case reported by Edelman and Rosenson shows that operative removal may be successfully attempted

18 Wilbrand and Sanger Neurologie des Auges 9 137, 1923

# PNEUMOPERITONEUM AS AN AID IN DIAGNOSIS OF HERNIA*

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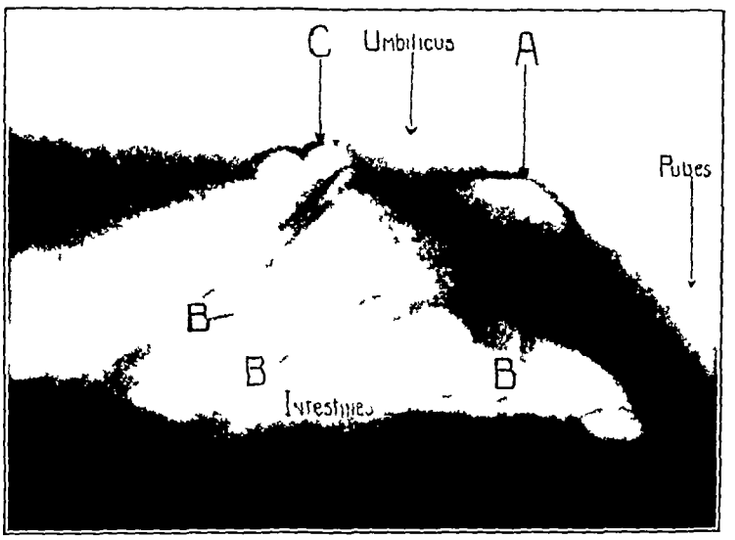
As an aid to the diagnosis of pathologic changes within the peritoneum, the use of pneumoperitoneum seems to have established itself on a fairly firm basis With increased experience and opportunity for observation, the scope of this method is constantly enlarging In this report I shall call attention to the assistance offered by the use of pneumoperitoneum in some of the various forms of abdominal hernia (1) in visualizing the contents of the hernia sac, showing the reducibility, the presence of adhesions, the position of the ring, etc, and (2) in demonstrating the patency of the processus vaginalis peritonaei in persons in whom a hernia cannot be diagnosed clinically, although a so-called "potential" hernia exists

In all the various forms of hernia it would at least be a source of satisfaction to know beforehand what tissues the sac contains, whether or not its contents are adherent, and the approximate size and shape of the hernial protrusion In some instances such knowledge would be of considerable importance

The accompanying roentgenogram illustrates certain advantages of this method in the presence of incisional hernia




Transverse view of abdomen, after pneumoperitoneum, from a retouched roentgenogram *A*, hernial sac containing gas only, *B*, omentoparietal adhesions, *C* second hernial sac containing adherent omentum and gas

## REPORT OF CASES

CASE 1.—Mrs. B. presented herself at my office with a well established incisional hernia The former incision had extended from the pubes to above the navel She stated that the hernial protrusion appeared at times just below the midpoint of the incision, that it could be reduced without difficulty, and that its appearance was not especially painful She furthermore complained of a constant dragging pain near the region of the umbilicus and more or less gastric disturbance, both of which had made their appearance soon after the operation By means of pneumoperitoneum and a roentgenogram, a satisfactory explanation of her complaints was revealed It may be noted in the illustration that the lower hernial sac, which is approximately the size of a hen's egg, is free of intestine and omentum and contains only air (*A*) Furthermore, it may be noted that, higher up along the line of incision a fair-sized strip of omentum is firmly attached to the abdominal wall (*B*) Laparotomy showed the presence of two hernial openings, the lower containing only air, the upper containing omentum which was adherent at one point—the remaining portion of the sac containing air

In presenting the subject of "potential" inguinal hernia I shall refer briefly to a few embryologic points It will be remembered that the testis reaches the scrotum, as a rule, about the end of the eighth month It is preceded by the vaginal sac, which communicates by its upper extremity with the peritoneum The narrow neck of the vaginal sac usually closes just before birth—the obliteration extending, as a rule, downward nearly to

* Read before the Minnesota Academy of Medicine, April 9, 1924

the testis This closure, separating as it does the vaginal sac from the remainder of the peritoneum, now forms the tunica vaginalis In the female this process, which is known as the canal of Nuck, and which accompanies the round ligament, passes through the abdominal wall and likewise usually becomes obliterated

It is probably true that the development of oblique inguinal hernia is dependent, first, on the failure of closure of the tube of peritoneum which passes through the inguinal canal and, secondly, to some degree on the development and attachment of the musculature supporting the inguinal region Trauma is believed by most authorities to play only a minor part in the etiology of the formation of hernia, although it may be the exciting cause The various varieties of inguinal hernia take their origin from the modifications in the obliteration of the funicular process in relation to the tunica vaginalis It is generally believed that by far the most important etiologic factor in the formation of the different types of inguinal hernia is dependent on the patency of the funicular process, that is, that in the individual in whom the peritoneal surfaces have failed to fuse, a so-called "potential" hernia is present and its development will be governed to a certain degree by the muscular competence of the parts

It is easily conceivable and undoubtedly true that most persons in whom an inguinal hernia which may be appreciated clinically develops have had a patent funicular process up to the time at which the clinical demonstration of hernia is possible

The following more or less accidental observation has led me to believe that, by the use of pneumoperitoneum, the presence of a patulous peritoneal tube projecting through the inguinal canal may be diagnosed in instances in which a clinical diagnosis could not otherwise be made

CASE 2—R, a man, entered St Mary's Hospital, April 2, 1924, for investigation of a more or less obscure group of symptoms pointing to a lesion in the upper abdomen The routine employment of pneumoperitoneum was followed by a distinct enlargement of the left scrotum The scrotal tumor was tympanitic on percussion and translucent to reflected light Partial deflation resulted in a diminution in the size of the scrotal enlargement By compression, the scrotum could be reduced to its normal size The interesting observation was made that the introduction of air into the peritoneal cavity, whence it presumably passed into the scrotum, resulted in more or less tenderness of the local parts (scrotum)

COMMENT

This patient, who had never had any of the symptoms or signs of inguinal hernia before the introduction of pneumoperitoneum, showed almost unmistakable evidence of a patent funicular process It would therefore seem reasonable to assume that, by the introduction of gas into the peritoneal cavity, the presence of a "potential" inguinal hernia could be diagnosed As an analogue of this, the appearance of fluid in the scrotum of the new-born after giving intraperitoneal fluid has been frequently noted and is here mentioned

Whether or not this method of procedure will become of sufficient value to have practical application, it would be difficult to predict at this time It would seem to have at least sufficient value to be worthy of careful investigation In cases in which pneumoperitoneum is performed, it would undoubtedly be worth while to be on the lookout for any abnormal protrusion in the inguinal region in cases in which inguinal hernia has hitherto been unsuspected

Another point which presents itself for consideration and which was suggested by my associate, Dr Clarence W Brunkow, is the possibility of the overdistention of the peritoneal cavity with gas acting as an etiologic factor in the formation of hernia This point, is suggested by Dr Brunkow, might become of special significance if the patient should evolve the idea that the introduction of gas into the peritoneal cavity was indeed the etiologic factor in the production of a hernia of which he had no knowledge before the gas was introduced Under such conditions, this factor might easily become of considerable importance as one of the contraindications to pneumoperitoneum, which in certain instances has proved itself a most excellent adjunct to our diagnostic methods This problem is of special significance in industrial surgery in which the presence or absence of "potential" hernia in an applicant cannot be determined by the medical examination

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## LOCALIZATION OF SPINAL BLOCK BY MEANS OF IODIZED OIL*

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The favorable prognosis following laminectomy for spinal cord tumors when an early diagnosis is possible is demonstrated beyond the peradventure of a doubt by the work of Adson, Cushing and Frazier That such tumors are frequently overlooked or considered hopeless by the general practitioner is brought out by necropsy findings and the variety of diagnoses first given, such as neuritis, rheumatism and gallbladder disease In a recent review of cases, Frazier and Spiller [1] report the average time as two and three-fifths years before diagnosis is established The frequency of spinal cord tumors, as compared to brain tumors, is as 1 6, the operability is higher and the mortality lower The usual symptomatology of pain, paresthesias, motor and sensory changes, and disturbed reflexes may be lacking for a sufficiently long time to puzzle the most experienced neurologist and thus allow too great damage to nerve tissue for restoration of function after removal of the tumor The work of Ayers, Ebaugh and others in establishing spinal block by means of combined cisternal and lumbar puncture is of great value in diagnosis but of little assistance in localization Recently, French surgeons, notably Sicard,[2] have reported several instances of the use of iodized oil in conjunction with the roentgen ray for the localization of spinal and cranial lesions No extensive reports have yet appeared in this country, and while its use is still open to question in the hands of those unaccustomed to neurosurgical problems, the following case offers evidence of the value of the method in selected cases

REPORT OF CASE

*History*—J H, a white man, aged 25, a dental mechanic, was admitted to the hospital, May 7, 1922, with the complaint of paralysis of the legs He stated that eight months before he had noticed that he dragged the right foot in walking He had had no pain and no abnormal sensations of any kind Two months before, he began to have some difficulty with the other foot and went to a hospital, where a lumbar puncture was done.

* From the neurologic service of J W McConnell Philadelphia General Hospital

1 Frazier C H and Spiller W G Spinal Cord Tumor Arch Neurol & Psychiat. 8 455 501 (Nov.) 1922

2 Sicard J A Paraf P and Laplane L Spinal Radiography by Means of Lipiodal Presse med 31 885 (Oct 24) 1923

This, he believed, aggravated his condition, and while he was able to walk to the hospital, he had been unable to walk since the procedure

He stated that he had noticed "shortness of breath" on exertion since the age of 14, but that there were no other symptoms referable to other bodily systems

He had not walked until 2 years of age At the age of 6 months a "cancer" was removed from the left shoulder He had had chickenpox, measles, scarlet fever and pneumonia as a child

In the family history there were no similar conditions and nothing of any bearing or of interest

*Examination*—The general physical examination revealed no abnormal findings There was some spasticity of the lower extremities, with increased patellar reflexes, a bilateral Babinski reflex and ankle clonus The sensory changes varied from day to day There was some dysthesia for temperature sensations about the waist, but this was not a constant finding The motor power was not lost, but the patient could not be induced to stand There was thought to be a large functional element in the case

Blood study and urine examination revealed no pathologic conditions

The spinal fluid showed no increase in cell count, and all tests for syphilis were negative

The roentgen-ray examination was negative for any bone lesion of the dorsal, lumbar or sacral vertebrae

*Subsequent Events*—The patient remained in the convalescent ward, content to sit in his wheel chair, making no complaints A mental examination was reported as "Dull normal individual, no evidence of hysteria, no delusional trends elicited, and nothing to suggest a psychotic condition" Repeated examinations by various physicians revealed no new findings, and the diagnosis was made of spastic paraplegia

February 21 of the present year, reconsideration of the case revealed that the patient had developed incontinence of the

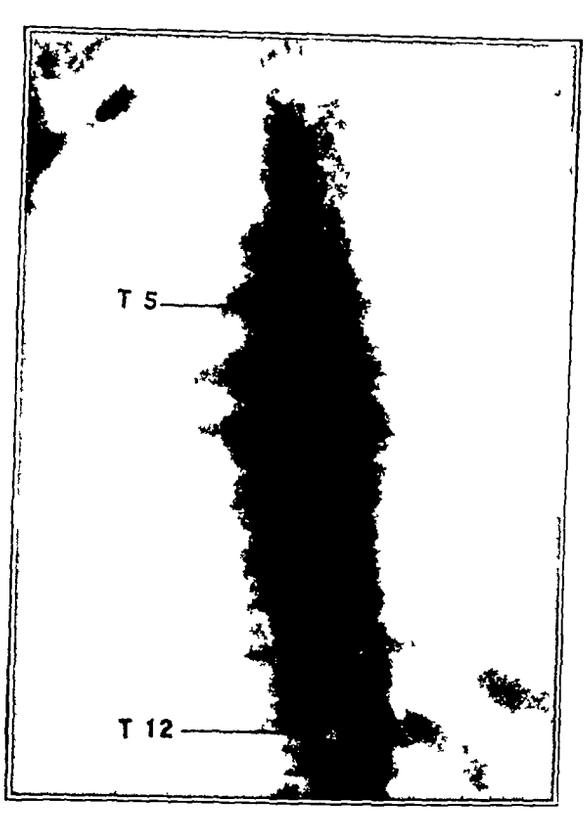


Fig 1—Iodized oil at level of fifth thoracic vertebra

bladder and partial incontinence of feces A lumbar puncture showed a slightly yellow fluid, containing three cells per cubic millimeter, and a cloud of globulin The manometer registered 10 mm of mercury, and pressure on the jugular veins (Queckenstedt) showed no rise in the column of mercury At no time was there any evidence of tuberculosis or syphilis Later combined cisternal and lumbar puncture was attempted, but no fluid could be obtained from the lumbar region The pressure and examination of that from the cisterna showed no abnormalities The spasticity and degree of exaggeration of the reflexes had increased The sensory examination showed no definite level, but there was some impairment for tactile, pain, temperature, vibratory, position and pressure sensations over the extremities and abdomen

In view of (1) the fact that the history was not unlike that of a cord tumor without pain but with motor symptoms at

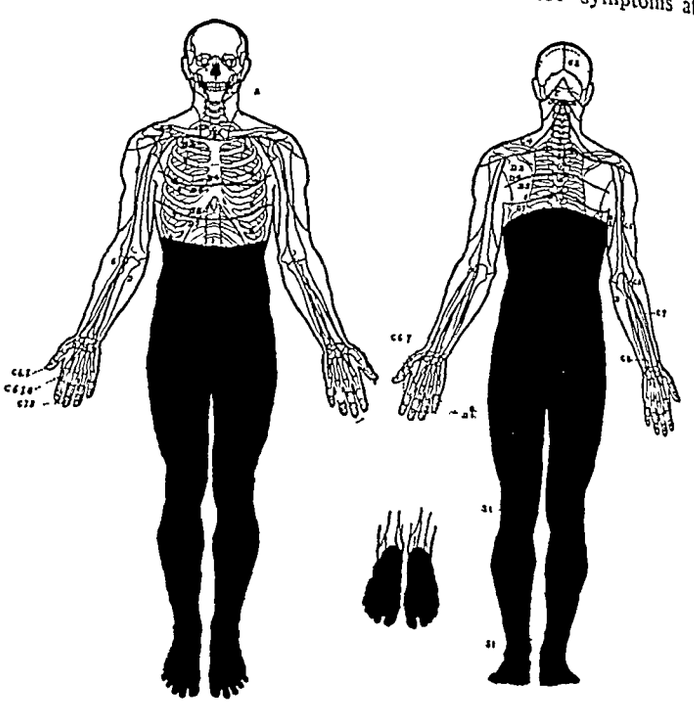

Fig 2—Sensory impairment for all forms of sensation

onset, (2) the helplessness of the patient with incontinence, and (3) the negative evidence of any other disease, the establishment of a lesion causing a spinal block or proof of its absence was most desirable Accordingly, 2 c c of iodized oil was introduced into the cisterna magna, and roentgenograms were taken of the thoracic spine The iodized oil, being heavier than the spinal fluid, seeks its level and, in cases without obstruction, will be found at the lowest point In this instance, the impervious material is seen opposite the body of the fifth dorsal vertebra (Fig 1) Following the injection, there was slight pain in the distribution of the seventh cord segment and localized sweating over adjacent vertebrae Both of these phenomena disappeared during the second twenty four hours after injection The patient had no convulsions, rise of temperature or any other abnormal clinical manifestations The conclusion was thus made of an obstruction at the fifth dorsal vertebra or seventh thoracic segment of the cord, and surgery was recommended

I have personal knowledge of the use of this method in two other cases with no untoward results However, the work of Ayer and Minter[3] indicates the irritability of the oil, and undoubtedly the method is not for indiscriminate use

Checking the findings later, a sensory level could be demonstrated corresponding to the foregoing localization (Fig 2)

April 23, laminectomy was performed by Dr John Stewart Rodman, and a tumor was removed at the level indicated The tumor was located on the anterior surface of the cord, intradurally, and was approximately 4 or 5 cm in length The gross appearance was that of a fibroma Although exceedingly friable, it was readily separated from the cord, with no evident injury to it

## CONCLUSIONS

1 Spinal block can be demonstrated by the use of iodized oil

2 The method is indicated when no definite sensory level or other localizing signs are present

3 With careful aseptic technic, no untoward reactions were experienced

3600 Walnut Street

3 Ayer and Minter Proc Boston Soc Neurol & Psychiat, Dec. 6, 1923

# VISUALIZATION OF THE GALLBLADDER BY THE SODIUM SALT OF TETRABROMPHENOLPHTHALEIN *

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WARREN H COLE, M D
AND
GLOVER H COPHER, M D
ST LOUIS

Since the publication of an article a few weeks ago by two of us [1] on the production of roentgen-ray shadows of the gallbladder, a more satisfactory method has been developed by using the sodium salt of tetrabromphenolphthalein, instead of the calcium salt The sodium salt is much more soluble We are now using only from 35 to 40 c c of solution instead of 350 c c required by the calcium salt It is much more stable, and is not crystallized out by sterilization The first several injections of the calcium salt, as stated in our previous publication, produced no reaction However, it was found later that a large proportion of the patients had reactions, which were characterized by headache, backache, nausea and vomiting, which lasted from ten minutes to ten hours There were never any significant changes in pulse or blood pressure The sodium salt was found to produce much less severe reactions, in fact, a large percentage of the patients had no ill effect, except a transient nausea lasting only ten or fifteen minutes Particularly was this true among the men patients, who as a whole seem less susceptible to reaction It seems quite probable that the large amount of fluid used in the injection of the calcium solution was responsible for part of the reaction

The sodium salt of tetrabromphenolphthalein can now be obtained in crystalline form from the Mallinckrodt Chemical Works of St Louis If this is used, all that is necessary to do is to dissolve 5 or 5 5 gm of the crystalline salt by heating in 40 c c of distilled water, and sterilize in a boiling water bath for fifteen or twenty minutes A few samples have been autoclaved, and were found to produce shadows just as efficiently as the solution sterilized in the water bath If desirable, the solution may be put up in vials, sealed and sterilized These solutions, as well as those in unsealed receptacles, have been left for from twenty-four to thirty-six hours before injection and found to be just as satisfactory as those given immediately after preparation As yet we have not given a solution that has been standing over thirty-six hours, but see no reason why it should acquire any harmful properties

The solution of the sodium salt is given intravenously, preferably in two doses We have never given it all in one dose, and do not know whether any serious symptoms would result or not The injection should be given in the morning between 7 30 and 9 30 with a syringe, in divided doses as stated, after the solution is warmed to body temperature The dose should be reduced for patients weighing less than 115 pounds (52 kg ) Great care should be taken not to allow extravasation of the solution outside the vein, on account of the danger of necrosis To obviate this danger, we recommend dilution of the solution up to 40 c c and insertion of the needle independently of the syringe, thus allowing a free flow of blood before the solution is injected A few cubic centimeters of sterile physiologic sodium chlorid solution should be injected after the dye to prevent leakage of the solution through the vein wall or needle

Orders are given for the patient to

1 Omit breakfast
2 Omit lunch (a glass of milk may be given if hunger is too pressing)
3 Take 40 grams (26 gm ) of sodium bicarbonate every three hours for forty-eight hours day and night while awake
4 Lie on the right side of the abdomen or be up
5 Take water if desired, by mouth
6 Omit protein from the evening meal on the day of injection
7 Take roentgen-ray films at four, eight, twenty-four and thirty-two hour periods (no special technic)

We call attention especially to the omission of breakfast and lunch, since this was unfortunately not mentioned in our first publication, and seems to be of great importance

## ANALYSIS OF CASES

There have been fifty-five cases in which injections with adequate dosage were given One of these had inadequate roentgen-ray films Several experimental routines were tried The one given above seems to produce, by far, the most satisfactory results

*Results*

| | | | | |
|---|---|---|---|---|
| Regular routine | Calcium salt | 28 | 25 positive | 2 had obstruction of cystic duct with stones; 1 had gallbladder only 2×3 cm in diameter and very badly diseased |
| | | | 3 negative | |
| | Strontium salt | 2 | faintly positive | |
| | Sodium salt | 10 | 9 positive | |
| | | | 1 negative (appendiceal abscess gallbladder not seen) | |
| Experimental routine | 1 Combined with gastro intestinal roentgen ray series | 9 | 7 positive | |
| | | | 2 negative | |
| | 2 Variation of routine orders | | 3 negative | |

## INTERPRETATION OF RESULTS

Obviously, any attempt to establish a criterion for the diagnosis of lesions of the gallbladder from the roentgen-ray shadow at such an early date would be entirely premature However, certain features have presented themselves, many of which have been quite consistent

A normal gallbladder will begin to cast a shadow from three and one-half to five hours after the injection, will show a tendency to change in size, will cast its heaviest shadow between sixteen and twenty-four hours, and empty in about forty-eight hours The shadow shown on the four or eight hour plate is almost invariably larger than the subsequent shadows So far, all gallbladders that failed to show this "elasticity or distensibility" at some time during the series, when the injection was followed by the routine given above have been found to be pathologic at operation, or to give definite clinical findings of gallbladder disease Pathologic gallbladders do not cast so heavy a shadow as normal ones, since the production of the shadow is dependent on the concentration power, which may be partially or completely destroyed by disease In four cases in which the routine order was followed, the gallbladder failed to cast a shadow All of these patients were operated on Two had a stone occluding the cystic duct, one had a gallbladder so scarred and contracted by disease that it was too small to cast a shadow The fourth patient had an appendical abscess containing a considerable amount of pus, on account of the abscess,

* From the Department of Surgery Washington University School of Medicine and Barnes Hospital
1 Graham E A and Cole W H Roentgenologic Examination of the Gallbladder J A M A 82 613 (Feb 23) 1924

the gallbladder region was not explored, and the amount of pathologic change, if any, could not be determined

In all patients with cholelithiasis in which the cystic duct was not occluded, the stones have appeared as either negative or positive shadows, but only after the injection of the dye The size, shape and density of the roentgen-ray shadows of the gallbladder have been variable, and will undoubtedly prove to be important factors in diagnosis It is most important, as in gastrointestinal examination by roentgen ray, that a series of plates be obtained So far, we have been content with four, eight, twenty-four and thirty-two hour plates

## SOME CHANGES IN THE CHEMICAL CONSTITUENTS OF THE BLOOD FOLLOWING A MARATHON RACE

### WITH SPECIAL REFERENCE TO THE DEVELOPMENT OF HYPOGLYCEMIA *

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BURGESS GORDON, M D
AND
CLIFFORD L DERICK, M D
BOSTON

Last year we [1] studied a group of runners who participated in the American marathon race of 25 miles, which takes place annually in Boston, April 19 In general, it was found that men who had been doing long distance running for many years did not develop hypertrophy of the heart as indicated by roentgen-ray examination Furthermore, directly after the race, the heart was found to be somewhat contracted rather than dilated The vital capacity of the lungs was measured and did not seem to bear any particular relation to the running ability of the contestants, and on the average it was not increased over the normal figure for men who live comparatively nonathletic lives

This year the usual distance of 25 miles was extended to 26 miles and 385 yards, the occasion being the final Olympic tryout The examinations this year were made to see what changes occurred in some of the more important constituents of the blood, i e, the sugar, uric acid, nonprotein nitrogen and carbon dioxid combining power In all, eleven different runners were examined Of these, five (Runners 57, 59, 55, 1 and 46) were tested one or two days before the race One of the others (Runner 68) was not only examined directly after the race but returned two days later for final observation Since many of the contestants had come from a considerable distance, and had arrived in Boston only the night before the race, it was not possible to examine the other five until immediately after the race The plan was to draw venous blood from the arm as soon after finishing the race as possible In the five men who had control specimens taken before the race, this was done within ten minutes after they had crossed the finish line In a few, blood was taken within two minutes With the others venipuncture was made somewhat later, but in no instance did more than thirty minutes elapse between the finish and the bleeding The blood was drawn into lithium oxalate, and determinations were made within one to two hours by the methods of Folin according to his latest modifications

BLOOD CONSTITUENTS AFTER RACE

In the table are charted the data obtained in this study Several striking points are apparent The nonprotein nitrogen practically doubled in all instances This bears out the work done by Feigl,[2] who found a somewhat similar rise in the blood constituents of German soldiers following a 20 mile march with full packs The uric acid showed a decided increase above the normal Although only one runner was reexamined (Runner 68), the examination showed that the nonprotein nitrogen and the uric acid had returned to normal forty-eight hours after the race The carbon dioxid combining power of the blood showed a slight but distinct tendency to fall in three runners on whom control determinations were made before the race

The most striking feature of the study was the marked fall in the sugar content of the blood that occurred in a majority of the runners An analysis of the individual findings proves rather illuminating No 60 showed a rather high blood sugar level, 178 milligrams per hundred cubic centimeters This runner left the race at about the fifteenth mile, and took some food, consisting of meat, bread and soda water, from fifteen to thirty minutes before the blood was drawn Runner 68 also showed a slightly elevated blood sugar level, this was accounted for by the fact that he ate some food just as he finished the race, and about twenty minutes before the blood was taken There were three men (1, 46 and 79) whose blood sugar was within normal limits The first two of these had had

*Observations After Race*

| Number of Runner | Mg per 100 C c of Blood Plasma: Nonprotein Nitrogen Before | Nonprotein Nitrogen After | Uric Acid Before | Uric Acid After | Sugar Before | Sugar After | Carbon Dioxid Combining Power Before | Carbon Dioxid Combining Power After | Physical Condition |
|---|---|---|---|---|---|---|---|---|---|
| 57 | 28 20 | 54 00 | 2 88 | 5 16 | 81 | 65 | 37 3 | 33.5 | Fair (pale) |
| 59 | 29 40 | 58 80 | 5 72 | 6 33 | 87 | 49 | 41 8 | 37 3 | Very poor (pale, cold) irritable |
| 55 | 23 40 | 36 90 | 4 44 | 7 00 | 88 | 65 | 43 2 | 34 0 | Fair |
| 1 | 26 70 | 31 50 | 3 0 | 3 40 | 108 | 89 | | | Good |
| 46 | 25 20 | 36 90 | 3 68 | 6 20 | 92 | 82 | | 41 8 | Good |
| 68 | | 38 10 | | 6 88 | | 123 | | | Good ate food before venesection |
| | | 23 50* | | 3 80* | | 91* | | | Good stopped running after 15 miles, ate food before venesection |
| 60 | | 89 50 | | 4 92 | | 178 | | | |
| 79 | | 63 10 | | 7 13 | | 82 | | | Good |
| 109 | | 30 50 | | 4 24 | | 50 | | | Very poor (pale) |
| 29 | | 49 00 | | 6 53 | | 47 | | 34 0 | Very poor (pale) |
| 67 | | 32 40 | | 5 56 | | 45 | | | Very poor, shocked, stuporous |

* Blood taken forty eight hours after the race

preliminary examinations, and the figures after the race, which are lower, show that the fall may have resulted from the violent exercise, although the element of variation of blood sugar content with relation to the previous meal was a possible factor in the change The remaining six runners showed unusually low blood sugar levels after the race

Such figures are rarely encountered in human experience except with excessive doses of insulin In some experimental work by Mann and Magath [3] on dogs, the sugar content of the blood was found to fall to low levels following the complete extirpation of the liver They found that at the level of 60 mg per hundred cubic centimeters, the animals became weak On reaching 50 mg, the muscles became flaccid and the animals

* From the medical clinic of the Peter Bent Brigham Hospital and the department of biologic chemistry of the Medical School of Harvard University

1 Gordon, Burgess, Levine, S A, and Wilmaers, A Observations on a Group of Marathon Runners, Arch Int Med **33** 425 (April) 1924

2 Feigl J Chemische Blutuntersuchungen an der Teilnehmern eines Armee Gepackmarsches Biochem Ztschr **86** 292 1916

3 Mann F C, and Magath, T B The Liver as a Regulator of the Glucose Concentration of the Blood Am J Physiol **55** 285 1921

became comatose Below the level of 40 mg, death resulted Since these experiments were made, similar symptoms have repeatedly been observed to follow an overdose of insulin with corresponding changes in the blood sugar, both in the experimental animal and in human beings

### RELATION OF EXHAUSTION TO LOW BLOOD SUGAR LEVEL

If one calls to mind the appearance of exhaustion that some athletes manifest after a grueling contest like a crew race or a long distance run, one will be struck with its similarity to progressive insulin shock Some of the runners at the finish of the race showed muscular twitching, extreme pallor, cold, moist skin, nervous irritability, and even collapse and unconsciousness It is extremely significant that a correlation existed between the blood sugar level and the physical condition of the runner at the finish Those who had a normal blood sugar content showed no symptoms or signs of shock The winner of the race (Runner 1), who broke the world's record, had a comparatively normal blood sugar and was in excellent condition after the race In fact, all the changes in his blood were very slight There were two other runners (46 and 79) who showed very little evidence of exhaustion, and the blood sugar was essentially normal Runners 57 and 55, who finished in only fair condition, showed asthenia and pallor, and blood sugar levels of 65 mg per hundred cubic centimeters The other four men (59, 109, 29 and 37) were markedly prostrated at the finish In fact, Runner 37 was unconscious and was brought in by the police, perfectly limp The appearance of the latter men was strikingly similar to the pictures produced either experimentally or in human beings by advanced hypoglycemia

The significance of the foregoing data is that, during such a prolonged and violent effort as a marathon race, when the metabolism is more than ten times the normal, as was shown by Ranchen,[4] the normal supply of the reserve blood sugar in the body is insufficient The rapid response to the ingestion of sugar, when symptoms of hypoglycemia have been observed under experimental conditions and as a result of an overdose of insulin, makes it seem highly probable that the state of shock that these runners manifested could either have been prevented or at least ameliorated if a larger supply of carbohydrate had been taken in the diet the night before or the morning of the race Furthermore, it would seem advisable for the runners to ingest during the race sugar in the form of lime drops or any other form of sweets

### SUMMARY

The examination of the blood of a group of eleven marathon runners showed at the end of the race a more or less marked increase of the nonprotein nitrogen and uric acid, and a slight fall of the carbon dioxid combining power The sugar content of the blood was found to be normal in three runners, somewhat diminished in two, and markedly decreased in four In two instances, food was taken before the withdrawal of blood, thus elevating the blood sugar

There was also a close correlation between the condition of the runner at the finish of the race and the level of his blood sugar Those who had the extremely low blood sugar level presented a picture of shock not unlike that produced by an overdose of insulin It is suggested that the adequate ingestion of carbohydrate before and during any prolonged and violent muscular effort would be of considerable benefit in preventing the hypoglycemia and accompanying development of the symptoms of exhaustion

721 Huntington Avenue

4 Ranchen Influence of Certain Types of Exercise on Basal Metabolism Handlingar Finska Lokaresallskapets 63 277, 1921

## Clinical Notes, Suggestions, and New Instruments

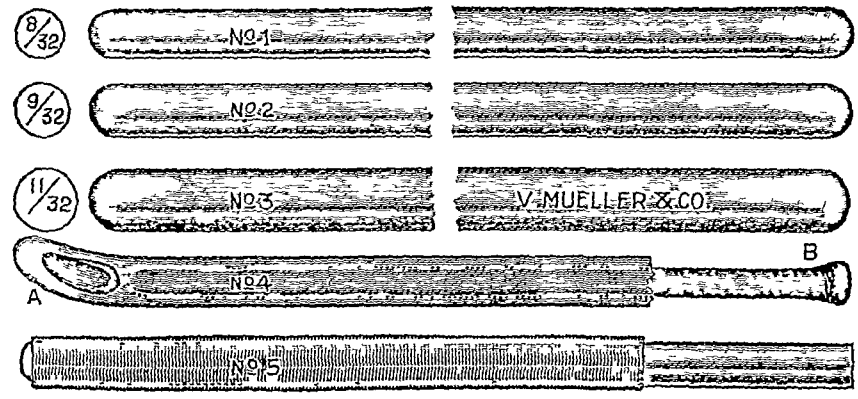
### THE TEMPORARILY REINFORCED DRAINAGE TUBE

EMMET A PRINTY M D, CHICAGO

Most surgeons have encountered, at one time or another, difficulty in suturing in place flexible rubber drainage tubes, when used for drainage of a hollow viscus

Some years ago I[1] described a method of reinforcing the tube, which presented many advantages Originally, solid glass rods of various sizes were used to render the tube temporarily nonflexible Since that time, metal rods of proper size have been made for this purpose by V Mueller & Co

After the surgeon determines what size of rubber drainage tube he will use, the nurse threads it over the proper rod




1 2 3 metal obturators for drainage tubes, 4, *A* soft catheter, *B*, flexible bougie, 5 prepared tube

It will be found that a tube so prepared (5 in the accompanying illustration) is easy to introduce and to hold in place The insertion of fixation sutures is facilitated, and purse-string sutures can be tied firmly, without danger of occluding the lumen of the tube by compression The inversion that precedes the tying of the purse-string suture is easily accomplished, whereas in the case of a flexible tube this procedure is often found difficult

The solid rod plugs the tube so that no contents can escape, the forceps that are generally clamped on the end of the tube for this purpose are dispensed with The rod is left in place until the external wound has been closed and dressings applied It is then removed and, as in cholecystostomy the tube is connected in the usual way The tube may be rendered nonflexible whether it is used plain or "dressed"

When soft rubber catheters are used, as in enterostomy or choledochostomy then one may employ elastic bougies of proper size, in place of the metal rods (No 4)

The diameter of each rod is slightly less than that of the lumen of the corresponding tube This allows the rod to be easily inserted and removed and also allows of proper compression by a purse-string suture

2040 Lincoln Avenue

1 Printy E. A Surg Clinics Chicago 2 989 (Oct) 1918

## REPORT OF A CASE OF RETAINED PLACENTA, CLINICALLY PLACENTA ACCRETA

C J ANDREWS, M D, NORFOLK, VA

Recent literature on obstetrics has called attention to the fact that placenta accreta is an extremely rare and very dangerous condition, that while it is a definite pathologic or anatomic entity, it is, in some cases, not possible to make a positive diagnosis if the uterine tissue is not available for microscopic study The essential characteristic is absolute atrophy of the endometrium, which results in absence of decidua, the chorionic villi penetrating directly into the uterine musculature, in some cases, nearly to the peritoneum

This condition is believed to be caused by an abnormal condition of the inner uterine wall, following vigorous curettage of the uterus, previous manual removal of the placenta, endometritis, oft repeated pregnancy, or myoma

Obviously, there is no possibility of such a placenta separating itself normally, and manual extraction entails extreme danger of rupture of the uterus and hemorrhage

Dietrich, in 1922, found nineteen well described cases in literature Polak found one case in 6,000 deliveries, and has seen only three others

The treatment recommended is hysterectomy after exploring the uterus manually, and finding no line of cleavage This may be supplemented by hysterectomy and an attempt to separate the placenta under the guidance of the eye before doing the hysterectomy

The following is a brief history of a patient who had a retained placenta with absolutely no line of cleavage, therefore, clinically, a placenta accreta

Mrs G, aged 31, a secundipara, had been married six years At the last labor, five years before I saw her, delivery had been with instruments and very difficult, with manual removal of the placenta Following this labor the patient's temperature was elevated for about a month At the end of about three weeks, a considerable piece of the placenta was discharged At that time the patient was quite sick, and possibly had a septic endometritis, as well as sapremia One year before I saw her, there was a curettement, and cervical repair was done Thus there were present three of the recognized etiologic factors in placenta accreta The present pregnancy had been without untoward event The patient was admitted to the Protestant Hospital, Feb 22, 1923, in active labor No fetal movements had been felt for a day or two, and no heart sounds had been heard by Dr H R Drewry, in consultation with whom I saw the patient The diagnosis of breech presentation with probably a dead baby had been made A full term, macerated fetus was delivered by breech presentation without difficulty The death of the baby was evidently due to a thrombus in the umbilical vein about 3 cm from the placenta No bleeding followed delivery of the fetus Five c c of pituitary extract was given after delivery After waiting about two hours without any evidence of separation of the placenta, I explored the uterus manually The placenta was rather thin, and was attached to a considerable portion of the inner surface of the uterus No line of cleavage could be found With one hand in the uterus and the other on the abdomen, I broke into and removed the placenta in small pieces, until no placental mass could be felt, although I know that a thin layer must have remained attached to the uterine muscle The uterine wall, though thin, in some places seemed to be of firmer consistency than the placental tissue itself The method of removal was the same that I use in removing placental tissue in incomplete abortions, although this was much more difficult The bleeding was rather free during this procedure, and the uterus was packed tightly The packing was removed after thirty-six hours, and no further excessive bleeding occurred The patient's temperature was 102 for two days The pulse was rapid, and she appeared rather sick during this time The remainder of the puerperium was uneventful

There can be no doubt that the manual removal of the placenta under these circumstances is extremely dangerous It is also true that hysterectomy is not entirely safe, and is destructive Waiting several days for the placenta to be passed has the disadvantage of infection, and therefore increases the danger if any operative procedure is taken

The number of these cases reported, or the collective experience in treating them, has not been sufficiently great to justify necessarily a conclusion as to the best manner of treating them

It is my belief that if extreme care is used, the separation being made really between the tips of the fingers of the two hands, this effort is justified

512 Taylor Building

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## CHANCRE IN A JUVENILE WITH GENERAL PARALYSIS, DURING ANTISYPHILITIC TREATMENT

CLYDE L SHINKLE, M D, CINCINNATI

This case of superinfection with syphilis is put on record because of the comparative rarity of the condition and the unusual combination of available data As comment would be merely repeating what has been said before, the case and the data will be merely stated for what they may be worth

*History*—B N, a colored lad, aged 16, entered the Cincinnati General Hospital, Jan 18, 1924, complaining of a sore on the penis The history was obtained from his grandmother, who had brought him up She stated that the boy's mother was known to have syphilis, and that the patient had been treated for syphilis during his infancy He had the usual childhood illnesses, but no sickness of consequence until 1918, when he had convulsions He was always slow mentally, but had been worse the last two years He did not get on well at school, but his exact school history was not available He was never unruly, but sat quietly about the house Recently, he had prayed a good deal, and had stated that he had religion and that he was to save the world He heard voices and asserted that he at times saw God He had been under observation of the outpatient clinic for two years, and was sent in at its suggestion The sore on the penis was only recently noticed

*Examination*—The boy was poorly nourished and poorly developed He sat quietly about the ward, occasionally grimacing and listening to voices When accosted, he answered questions in a stammering (not a slurring) speech He readily admitted sexual irregularity, but saw nothing incongruous in this and his voluble professions of religion His intelligence was almost nil, he could not do simple addition and subtraction Occasionally, he held bizarre poses into which he had been put There was indolent general adenopathy The pupils reacted sluggishly, there was questionable deviation of the tongue, and the knee jerks were exaggerated Romberg's test was negative The penis showed a ragged, dirty sore, as big as a nickel, involving the prepuce and the sulcus At one end of this sore was a hard red nodule, the size of a large pea The laboratory findings proved previously existing spyhilis, the syphilitic character of this nodule and the existence at present of general paralysis

The condition changed little under treatment, and the patient was taken home against advice, February 6 February 21 he was readmitted, and on the 26th he was sent to Longview Hospital for the insane, where he now is

*Laboratory Findings*—In March, 1922, at the age of 14, the mental age was 9 years and 4 months

In January, 1924, at the age of 16, the mental age was 7 years and 8 months

In February, 1923, the blood Wassermann reaction was positive

Intermittent antisyphilitic treatment was well carried out until January, 1924, several tests were made The blood Wassermann reaction was positive The Wassermann reaction of the spinal fluid was positive, globulin was increased, there were from 17 to 27 cells to each cubic millimeter The gold curve was in the general paralytic zone Dark field examination showed *Spirochaeta pallida* in the the nodule of the sore on the penis

### SUMMARY

This case corresponds well with those reported in the literature as cases of superinfection or reinfection of patients with syphilis This occurrence contradicts most of our present beliefs about syphilis and the Wassermann reaction This case was one of proved chancre in a juvenile patient with proved general paralysis during antisyphilitic treatment

Groton Building

## TRUE AND FALSE PRESYSTOLIC THRILLS *

MORRIS H KAHN, M D, NEW YORK

In 1919, I[1] had the opportunity to observe a differential diagnostic point between the thrill in organic mitral stenosis and that which occurs in nonorganic heart conditions of the neurocirculatory type I have since been able to confirm my statements at that time

The thrill in neurocirculatory asthenia, as also in some cases of thyrotoxic heart, is due to the diffusion of the apex beat as it strikes over several rib spaces with a forcible or jerky move-

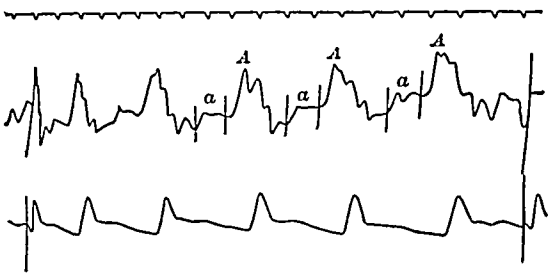


FIG 1 —Cardiogram from a case of neurocirculatory asthenia

ment This systolic shock gives to the palpating hand the impression of a presystolic thrill The thrill is recognized as a rumble characteristically when the chest-piece of the stethoscope covers a whole interspace, being applied over two ribs

If now the stethoscope is placed obliquely on the chest wall so that its edge lies within an interspace and its mouth inclines toward either the upper or the lower rib, the rumble disappears, This is characteristic and almost always to be noted when there is a thrill in these cases

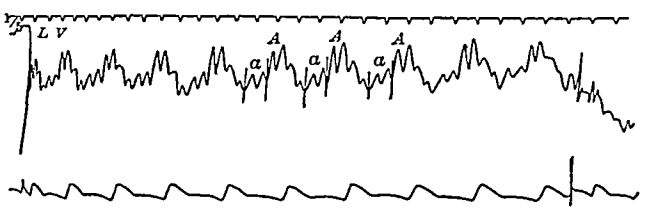


FIG 2 —Cardiogram from a case of mitral stenosis

In mitral stenosis, however, the distinct presystolic wave persists against adventitious attempts to obliterate it The cardiogram in mitral stenosis is also different from that of this condition

140 West Sixty-Ninth Street

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# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER, SECRETARY

**MEAD'S POWDERED PROTEIN MILK**—A modified milk preparation having a relatively high protein content and a relatively low carbohydrate content Each 100 Gm contains approximately protein 37 Gm, butter fat 31 Gm, free lactic acid 3 Gm, lactose 19 Gm, and ash 4 6 Gm

*Actions and Uses*—When suitably mixed with water powdered protein milk is said to be useful for correcting intestinal disorders of infants and children

*Dosage*—For the majority of conditions, powdered protein milk should be administered in small quantities according to age and condition of the patient, after a period of starvation of from twelve to forty-eight hours Suitable carbohydrates may gradually be added to the preparation as indicated by the clinical conditions

To prepare protein milk for use, 1 ounce (3½ tablespoonfuls) of powdered protein milk is placed on the surface of 11 fluidounces of cold, previously boiled, water and the mixture beaten with an egg beater or wire whip Greater dilutions are sometimes prescribed Carbohydrates, if prescribed, are dissolved in a little warm water and added to the protein milk, and then sufficient boiled water is added to make 12 fluidounces One hundred Cc of the finished mixture, without additional carbohydrate, contains approximately 3 1 Gm of protein, 2 5 Gm of butter fat, 1 6 Gm of lactose, and 0 4 Gm of ash

Manufactured by Mead Johnson and Company, Evansville, Ind No U S patent or trademark

**POLLEN ANTIGENS-LEDERLE** (See New and Nonofficial Remedies, 1924, p 252)

The following products have been accepted

*Giant Ragweed Pollen Antigen Lederle Green Sage Pollen Antigen Lederle Lambs Quarters Pollen Antigen Lederle Marsh Elder Pollen Antigen Lederle Olive Pollen Antigen Lederle Pasture Sage Pollen Antigen Lederle Southwestern Ragweed Pollen Antigen Lederle, Western Water Hemp Pollen Antigen Lederle Western Ragweed Pollen Antigen Lederle*

Prepared by the method given for Pollen Antigens Lederle (New and Nonofficial Remedies 1924 p 253)

**POLLEN ALLERGEN SOLUTIONS-SQUIBB** (See New and Nonofficial Remedies, 1924, p 251)

The following Pollen Allergen Solutions-Squibb are marketed in packages of two tubes diagnostic solution with bulb and needles, in packages of six tubes (assorted) diagnostic solution with bulb and needles, in 5 Cc vials for treatment only (1 Cc = 0 025 Mg of pollen nitrogen)

*Annual Salt Bush Pollen Allergen Solution Squibb Arizona Ash Pollen Allergen Solution Squibb Arizona Cottonwood Pollen Allergen Solution Squibb Arizona Walnut Pollen Allergen Solution Squibb Ash Pollen Allergen Solution Squibb Black Mulberry Pollen Allergen Solution Squibb Black Walnut Pollen Allergen Solution Squibb Brome Grass Pollen Allergen Solution Squibb California Black Walnut Pollen Allergen Solution Squibb Careless Weed Pollen Allergen Solution Squibb Cedar Pollen Allergen Solution Squibb Cocklebur Pollen Allergen Solution Squibb Corn Pollen Allergen Solution Squibb Dark Leaved Mugwort Pollen Allergen Solution Squibb False Ragweed Pollen Allergen Solution Squibb Hickory Pollen Allergen Solution Squibb Johnson Grass Pollen Allergen Solution Squibb Lambs Quarters Pollen Allergen Solution Squibb Marsh Elder Pollen Allergen Solution Squibb Nettle Pollen Allergen Solution Squibb Oak Pollen Allergen Solution Squibb Pigweed Pollen Allergen Solution Squibb Pine Pollen Allergen Solution Squibb Poplar Pollen Allergen Solution Squibb Rye Pollen Allergen Solution Squibb Sandbur Pollen Allergen Solution Squibb Shadscale Pollen Allergen Solution Squibb Sheep Sorrel Pollen Allergen Solution Squibb Slender Ragweed Pollen Allergen Solution Squibb Sweet Vernal Grass Pollen Allergen Solution Squibb*

The following Pollen Allergen Solutions-Squibb are marketed in packages of two tubes diagnostic solution with bulb and needles, in packages of six tubes (assorted) with bulb and needles, in treatment sets consisting of

Set A ten vials containing for each consecutive dose (Nos 1 to 10, inclusive) 0 00005, 0 0001, 0 0002, 0 0004, 0 0008, 0 0016, 0 0032, 0 0064 0 0128 and 0 025 Mg of pollen nitrogen, respectively, ten vials of sterile diluent with which to make the proper dilution of each dose, 1 tube of pollen allergen for diagnosis only, and a syringe

Set B five vials containing for each consecutive dose (Nos 1 to 5, inclusive) 0 00005, 0 0001, 0 0002, 0 0004 and 0 0008 Mg of pollen nitrogen, respectively, five vials of sterile diluent with which to make the proper dilution of each dose, 1 tube of pollen allergen for diagnosis only, and a syringe

Set C five vials containing for each consecutive dose (Nos 6 to 10, inclusive) 0 0016, 0 0032, 0 0064, 0 0128 and 0 025 Mg of pollen nitrogen, respectively, five vials of sterile diluent with which to make the proper dilution of each dose, and a syringe

Set D five vials (dose No 10) each containing 0 025 Mg of pollen nitrogen five vials of sterile diluent with which to make the proper dilution of each dose, and a syringe

*Bermuda Grass Pollen Allergen Solution Squibb June Grass Pollen Allergen Solution Squibb Mugwort Pollen Allergen Solution Squibb Orchard Grass Pollen Allergen Solution Squibb Ragweed Pollen Allergen Solution Squibb Sagebrush Pollen Allergen Solution Squibb Timothy Pollen Allergen Solution Squibb Western Ragweed Pollen Allergen Solution Squibb*

Prepared by the method given for Pollen Allergen Solutions Squibb (New and Nonofficial Remedies 1924 p 252)

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* From the department of cardiovascular diseases Beth Israel Hospital

1 Kahn M H Am J M Sc. 157 634 (May 19) 1919

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SATURDAY, MAY 31, 1924

## INSULIN IN THE BLOOD

Present-day physiology postulates at least two procedures whereby tissues capable of detectable functioning are aroused to activity One mode of stimulation is through the direct intermediation of the nervous system whereby directive impulses are carried to the active cells, so that they respond The movements of our skeletal muscles are, for the most part, initiated and coordinated through such a nervous mechanism There remains, however, the more recently appreciated possibility that function may be promoted in the body through the influence of chemical substances that reach the reactive tissues In this way hormones act on various groups of cells through the intermediation of the circulation that transports the potent compounds, rather than as the direct result of nervous impulses The growing recognition of stimulation through humoral as well as nervous paths in the organism may properly be regarded as one of the contributions of research during the passing quarter century

It is, of course, more than likely that the hormones that are contributed by endocrine structures are present at times, if not continually, in the blood stream and the lymph that serves as an intermediary between the vascular circulation and the body tissues It is scarcely conceivable, for example, that the thyroid hormone should function at long distance from the thyroid gland in any way except through its escape into the blood and subsequent distribution thereby The formulation of such an hypothesis is a far easier task, however, than the direct demonstration in the blood of the hormone concerned The quantity of the chemical excitant present at any moment in an analyzable sample of blood may be so small as to escape detection by current modes of investigation In the course of a few hours, a hundred grams of well defined amino-acids may enter the circulation by absorption from the alimentary tract, nevertheless, it requires the most refined technic of a skilled biochemist to detect the traces that are being distributed at the moment when a blood sample is withdrawn for examination Assays of the blood for a suprarenal hormone of the type of epinephrin have suggested its occurrence in a dilution of one part per billion [1] The thyroid hormone is traceable only through its content of iodin, and is almost equally elusive in the blood at any moment

Insulin from the pancreatic tissue is presumably also carried by the blood stream to the liver and other tissues Even before the discovery of insulin as it is recognized today, the late A H Clark [2] observed that the perfused pancreas consumed no sugar, but that the amount consumed by the heart was greatly increased when the perfusion fluid was first passed through the pancreas and then through the heart His results afforded strong circumstantial evidence of the presence in normal blood of a hormone necessary to the utilization of carbohydrates by the tissues Best, Scott and Banting [3] of Toronto have succeeded in preparing from the bloods of normal animals a substance that produces hypoglycemia in normal rabbits This is an outstanding characteristic of insulin The experiments tend to show also that this substance is reduced in amount in the blood of completely diabetic dogs As would be expected, the substance is present in greater quantities in the blood of hypoglycemic rabbits than in that of normal rabbits If these indications of the occurrence of insulin in the blood normally prove to be correct, the outcome will be another triumph for the experimental method

## EMETIN AND AMEBIASIS

Enthusiasm with respect to the success or promise of current modes of treating amebic dysentery has waxed and waned from year to year To the critical student, this means that much remains to be learned The history of medicine is replete with instances of alternating satisfaction and discouragement respecting special types of therapy Many physicians, indeed, probably most practitioners in this country, have paid scant attention to amebic dysentery, because they have regarded it as an extreme rarity Nevertheless, it is stated that the disease, with liver abscess as a frequent sequel, occurs over the greater part of the United States [4]

The difficulties in the way of a better scientific understanding of amebic dysentery have been manifold At the outset, much confusion arose from the fact that various amebas, some of which do not attack the tissues or cause dysenteric symptoms but which are easily confused with the pathogenic *Endameba histolytica,* may inhabit the alimentary tract of man Progress in the study of parasitic microbiotic invaders has usually followed whenever it has become possible to grow them in cultures outside the body Methods applicable to

1 Hoskins, R G The Relation of the Adrenals to the Circulation, Physiol Rev 2 343 (July) 1922

2 Clark, A H Johns Hopkins Hosp Rep 18 229 1917

3 Best C H Scott D A, and Banting F G Insulin in Blood, Tr Roy Soc 1923, Sec V, p 81

4 Chandler, A C Animal Parasites and Human Disease New York, John Wiley & Sons, 1922

*Endameba histolytica* have not yet been devised with success Consequently, observation of the amebacidal effects of various drugs has necessarily been confined to the more easily cultivated but less harmful types, and the inferences have been transferred to the pathogenic varieties Also the discovery of a species of higher animals that might serve for the experimental investigation of amebic dysentery has involved difficulties Kittens, however, have been found to be readily susceptible to infection with amebas Finally, the demonstrated circumstance that, for some reason or other, infection with *Endameba histolytica* by no means always causes dysentery presents a factor in unexplained variable resistance or immunity that must be reckoned with in evaluating the results of any form of treatment in man

It has long been known that ipecac sometimes has a marked remedial effect on dysentery, and the observation of Vedder that the alkaloid emetin, prepared from ipecac, inhibits the development of cultures of amebas was a noteworthy contribution to the study of amebiasis It was due to Vedder's suggestion that emetin was tried in amebic dysentery, and of late the alkaloid has been administered in ways other than orally The newer method of treatment has been credited with many instances of success in human patients, though it has by no means been either ideal or unfailing in its results Considerable confusion has been introduced, however, by the assertions of Dale and Dobell [5] that they were unable to eradicate or even control an acute amebic infection in kittens, the classic experimental subjects, with emetin Furthermore, animals that were receiving prophylactic doses of the drug could be successfully infected with amebas A reinvestigation of the question by Sellards and Leiva [6] indicates, on the other hand, that experimental amebic dysentery in cats responds to emetin in fundamentally the same way as the spontaneous disease in man These investigators do not imply that emetin or any other drug in use at present constitutes a satisfactory treatment for the chronic advanced cases of amebic dysentery They do encourage the continued study of the therapy along the lines already begun Sellards and Leiva regard the clinical evidence as very convincing that the normal person exhibits considerable natural resistance to *Endameba histolytica* Emetin is pictured as moderately toxic for amebas in vitro, and distinctly toxic for mammals Even though the therapeutic doses are small, it seems unlikely to these investigators that the parasite in the host can escape the toxic action of emetin They look on recovery from amebic dysentery after treatment in man as resulting from two factors the natural resistance of the host, and the moderate amebacidal action of the drug used A lowering of either of these factors allows the disease to progress

5 Dale H H and Dobell C J Pharmacol & Exper Therap **10** 399 1918

6 Sellards A W and Leiva L The Experimental Therapy of Amoebic Dysentery J Pharmacol & Exper Therap **22** 467 (Jan ) 1924

## THE RELIEF OF INTRACRANIAL SYMPTOMS IN CARBON MONOXID ASPHYXIA

The growing menace of carbon monoxid as a source of hazard to mankind in various walks of life is beginning to find widespread appreciation [1] A danger that was formerly confined largely to poisoning with illuminating gas through accident or with suicidal intent has been greatly extended by the advent of the automobile, the exhaust gases of which contain carbon monoxid Not only does asphyxiation from the gas occur with alarming frequency today, but there are signs that a subacute asphyxiation from the same cause may be far more common than has heretofore been supposed The incipient symptoms include headache, fatigue, nausea and disturbances of temper The precise causation is by no means entirely clear

In severe carbon monoxid asphyxiation, the chief damage is usually wrought on the central nervous system This apparently selective action of the gas has led, as Haggard [2] has pointed out, to the belief that carbon monoxid exerts a specific toxic action on nervous tissue From the clinical and pathologic standpoints, the acceptance of this specificity affords an easy explanation of an otherwise difficult problem Physiologic evidence indicates, however, as Haggard adds, that aside from its displacement of oxygen from the blood, carbon monoxid is as innocuous as nitrogen The nervous sequelae of the poisoning follow as one of a train of profound physiologic alterations, due primarily to the anoxemia induced by the combination of carbon monoxid with hemoglobin and exclusion of oxygen Haggard has grown isolated nervous tissue cells amid concentrations of carbon monoxid as high as 79 per cent The fact that the delicate neuroblasts will propagate in an apparently normal manner when exposed to a tension of carbon monoxid so great as to be in the body physiologically impossible is conclusive evidence that carbon monoxid does not exert a specific toxic action on nervous tissue

In more recent studies of the Medical School of Harvard University by Forbes, Cobb and Fremont-Smith,[3] carbon monoxid inhalation was found to cause in animals and in man a rise in intracranial pressure, which shows two distinct elevations the first occurs during asphyxia and is caused by congestion due to a rise in arterial pressure, the second occurs after asphyxia and is caused probably by edema The intracranial pressure is of sufficient height to produce transient eyeground changes observable by the ophthalmoscope By way of treatment, the Boston investigators have applied the recently advocated scheme of reducing

1 Henderson Yandell and Haggard, H W Health Hazard from Automobile Exhaust Gas in City Streets Garages and Repair Shops J A M A **81** 385 (Aug 4) 1923 Resuscitation from Gas Poisoning editorial ibid **81** 581 (Aug 18) 1923 The Health Hazard of the Automobile ibid **81** 932 (Sept 15) 1923

2 Haggard H W Studies in Carbon Monoxide Asphyxia II The Growth of Neuroblast in the Presence of Carbon Monoxide, Am J Physiol **60** 244 (April) 1922

3 Forbes H S Cobb Stanley and Fremont Smith Frank Cerebral Edema and Headache Following Carbon Monoxid Asphyxia Arch Neurol & Psychiat **11** 264 (March) 1924

cerebral volume Intravenous injection of hypertonic saline solution, which was known to cause absorption of water by the blood from the tissues, reduced the increased brain bulk and relieved compression In man this procedure has already been found to relieve a stuporous condition, accompanied by an abnormally high spinal fluid pressure and headache, of twenty-four hours' duration, due to asphyxia by illuminating gas Heretofore, emphasis has been directed almost exclusively to the speedy improvement of respiration by any means calculated to increase the intake of oxygen and the displacement of carbon monoxid from the victim of the gas Perhaps also the added therapeutic scheme of relieving the carbon monoxid headaches by reducing the intracranial congestion and edema will find wholesome application Such helps will be needed so long as the industrial and domestic hazards of the gas continue to be so prominent in the everyday life of our larger communities

## THE ACID REFLEX OF THE PYLORUS

The activities of the sphincter of the pylorus are an important part of the process of alimentation On their well ordered routine, the proper digestive delay of ingested food in the stomach and likewise the timely discharge of the chyme into the duodenum largely depend Either phase of the gastric functions may be unduly hastened or retarded, as the case may be, when the pyloric sphincter behaves abnormally The conventional description of the mechanism of opening and closing the pylorus has given much prominence in the last two decades to so-called "acid control" An actual quotation from a textbook[1] will serve to illustrate this view, according to which the pylorus opens whenever free hydrochloric acid of sufficient concentration is present in the stomach The opening of the pylorus allows the escape of a part of the acid stomach contents into the duodenum As soon as the acid comes into contact with this portion of the intestinal tract, however, the pylorus is made to close, and it remains closed until the acid in the duodenum is neutralized through the flow of the pancreatic juice and bile into this portion of the intestine The presence of acid in the duodenum is the determining condition for the flow of juice from the pancreas As the acid in the duodenum becomes neutralized—so the theory proclaims—the stimulus to the closure of the pylorus is weakened, until the acid in the stomach once more opens the sphincter Another portion of food in consequence escapes from the stomach, the pylorus closes once more, and the cycle is repeated

This fascinating hypothesis of a seemingly purposeful performance was built largely on experiences gained in the study of animals More recent studies on man by means of roentgenographic methods have furnished a different picture of the behavior of the pyloric sphincter in the human alimentary tract In the observations of McClure, Reynolds and Schwartz[2] of Boston, for example, finely divided carbohydrate, protein or fatty foods began to leave the normal human stomach within a comparatively few minutes after their initial ingestion Under normal conditions, the human pyloric sphincter opens regularly at the approach of each antral peristaltic wave, allows chyme to pass through into the duodenum during an appreciable length of time, and closes when the antral peristaltic wave has spent itself The introduction of hydrochloric acid solutions into the first, second or third portions of the normal human duodenum either produced no effect on the opening of the pyloric sphincter, as observed by means of the fluoroscope, or produced effects that were interpreted as the result of abnormal irritation of the duodenal mucosa Neutralization of the contents of the first portion of the duodenum did not prevent the closing of the pyloric sphincter

Further evidence that acid is at any rate not the principal factor controlling the opening and closure of the pylorus has recently been secured on animals by Carlson and Litt[3] at the University of Chicago Under their experimental conditions, water, acids or alkalis acting on the antrum mucosa failed to produce an effect on the tonus of the pylorus This is true whether the pylorus was in hypertonus and spasm, in moderate tonus or atonic These substances acting in the stomach caused neither relaxation nor contraction of the pylorus These results, therefore, offer no support to the theory that acid acting on the antrum mucosa relaxes the pylorus Irritation of the duodenal mucosa by a variety of stimuli—water, acids or alkalis—induces contraction of the pylorus The Chicago physiologists point out that the pylorospasm induced by acid and alkalis in the duodenum is more marked than that induced by water in the duodenum The stronger the acid or alkali, the stronger and the more prolonged is the pylorospasm The hypothesis of a specific "acid" reflex of the pylorus must probably be abandoned

1 Fisher, M H Physiology of Alimentation, 1907

2 McClure, C W Reynolds, L, and Schwartz, C O On the Behavior of the Pyloric Sphincter in Normal Man Arch Int Med **26** 410 (Oct) 1920

3 Carlson, A J, and Litt, S Studies on the Visceral Nervous System On the Reflex Control of the Pylorus, Arch Int Med **33** 281 (March) 1924

**Automobile Fatalities in Death Registration Area in 1922** —Returns compiled by the Bureau of the Census show that during 1922 there were 11,666 deaths resulting from accidents caused by automobiles and other motor vehicles (excluding motor-cycles) in the death registration area of the United States (exclusive of Hawaii), that area comprising 85 per cent of the total population of continental United States in 1922 The death rate from this cause was 12 5 per hundred thousand population in 1922, 11 5 in 1921, 10 4 in 1920, 9 4 in 1919, 9 3 in 1918, and 9 in 1917 In the twenty-seven states for which data for 1917 are available, the actual number of deaths from this cause increased from 6,014 in that year to 9,581 in 1922, the corresponding rates for these two years being 8 7 and 12 9, respectively, or an increase during the period of very nearly 50 per cent—*Pub Health Rep* 39 754 (April 11) 1924

# Current Comment

## PENETRABILITY OF THE NASOPHARYNX

The mucous membranes of the nasopharynx attract attention to themselves most frequently because they are the seat of inflammatory reactions that lead to the production of mucus to an annoying extent and sometimes to disagreeable obstruction of the upper respiratory passages It is not customary to think of the pharyngeal and nasal membranes ordinarily as places for ingress of substances into the organism Nevertheless there is growing evidence that drugs in solution can be absorbed from these surfaces, and there are numerous well known indications that the mechanical obstacle offered by the mucous membranes in general to particulate matter, such as micro-organisms, is by no means a perfect safeguard When penetrability by bacteria has apparently occurred without the evidence of demonstrable morphologic lesions, some observers have assumed the existence of local physiologic or functional injury, such as congestion or catarrhal inflammation Recent experiments by Blumgart [1] of Boston corroborate earlier evidence that the nasopharynx constitutes an area of peculiar physiologic significance with respect to absorption They indicate that crystalloids, colloids and, to a lesser extent, particulate matter traverse the nasopharyngeal mucous membrane by being absorbed by way of the olfactory nerve cells and thence to the systemic lymphatics Blumgart ventures to suggest that the anatomic design of the upper respiratory passages that serve to prevent the progress of particles to the more vulnerable pulmonary passages, the power of mucus to dissolve organisms, and the ability of the nasopharynx to absorb such decomposition products and transmit them to the underlying lymphatics constitute a chain of forces splendidly adapted to the creation of natural active immunity For the moment, however, the feature of outstanding importance is the demonstration of a path of transport through olfactory cells into the lymphatic meshwork beneath the nasal mucous membrane

## THERMAL ENVIRONMENT AND BASAL METABOLISM

The estimation of basal metabolism occupies an important place among the procedures whereby the clinician determines the nature of certain abnormalities of function and follows the progress of remedial measures that may be instituted The term basal metabolism is used to refer to the minimal rate of energy transformation prevailing in the body A physiologist [2] has described it as the oxidation that still goes on when the "fires" of the body are "banked" It can be measured at a time when a person is not digesting any food (in man, from fourteen to sixteen hours after the last meal) and when lying perfectly still so that voluntary muscles, other than those of respiration, are entirely at rest and have been resting for not less than half an hour Under these circumstances, he adds, the body is doing no external work and is metabolizing merely to the extent required for maintaining circulation, constant body temperature and the general equilibrium of vital processes The heat production indicated in the measurement of basal metabolism thus becomes an excellent index of general tone or well-being F G Benedict, to whom we owe some of the fundamental researches in this field, notably the development of suitable apparatus, has recently remarked that the determination of basal metabolism was a physiologic curiosity ten years ago, whereas now it has become a pathologic necessity in the clinical world He has recently investigated certain criticisms of current methods of making metabolism tests It has been argued, for example, that as heat is in part produced to keep the body warm, and as people, even when clothed and lying covered, are producing heat to combat the cooling effect of the surrounding air, all measurements of the minimum heat production must be made not in the air under ordinary conditions, but with the body immersed in bath water at 98 F Under such conditions for making the tests, the heat production, we are told, may be one-third lower than under ordinary conditions Experiments conducted by the Benedicts [3] to test this point showed that if the metabolism is measured, first, with the subject lying, clothed and covered with one thin blanket, in a laboratory room at 60 F, and then with the body immediately thereafter immersed in a bath at 98 F, the heat production not only is not lowered in the bath but usually is slightly increased The extra heat is stored to warm up the large amount of peripheral body tissue that even with a normally clothed man is considerably below so-called body temperature, 98 6 F When this warming is accomplished, the temperature of the whole body will increase until again the heat loss just balances the heat production It is satisfying to receive such assurance that a widely adopted procedure on which diagnosis and therapeutic judgment have often been based of late is not radically incorrect or unscientific

## A DISCARDED THEORY OF TETANY

Any one who attempts the study of the problems of tetany, a phenomenon of clinical as well as purely experimental significance, is confronted by a confusion of observations and theories that is likely to discourage all except the most persistent persons from the effort to discover the truth The foremost types of disorder that is attended with obvious muscular twitchings or even a latent tendency to such uncoordinated contractile responses are seen in gastric tetany and in so-called parathyroid tetany Recent studies make it appear probable that idiopathic tetany is identical with or closely related to the condition following absence of the parathyroids It has long been assumed, partly on the basis of analogy and consequent conjecture, that the symptoms of tetany are due to some toxic substance that circulates in the body and accumulates as the result of the absence of parathyroid function Detoxication,

1 Blumgart H L A Study of the Mechanism of Absorption of Substances from the Nasopharynx Arch Int Med 33 413 (April) 1924
2 Mitchell P H A Textbook of General Physiology New York McGraw Hill Book Company 1923

3 Benedict F G and Benedict C G The Influence of The mal Environment upon Basal Metabolism Science 59 447 (May 16) 1924

however vague the conception that it presents, has long been a favorite explanation for the indispensable activities of some of the glandular structures for which other uses have not yet been clearly indicated The liver and thyroids, for example, have long been assumed by some writers to detoxicate circulating harmful products In the case of the parathyroids, this hypothesis seemed to receive additional weighty support when it was announced from independent places that derivatives of guanidin are excreted in the urine by animals in a state of tetany after ablation of the parathyroids Furthermore, there are a number of resemblances between the symptoms of intoxication with guanidin and those following parathyroidectomy, so that Paton and his collaborators in Glasgow have sponsored the widely discussed theory of intoxication with guanidin bases as an explanation of some of the manifestations attending lack of the parathyroids Greenwald [1] has recently brought strong criticism to bear against the validity of this doctrine He has attacked the evidence for the alleged presence of guanidin derivatives in the urine, pointing out that they are readily formed from creatin by the chemical manipulations incident to their supposed isolation His own careful examinations have failed to yield any support to the idea that tetany is due to intoxication with nitrogenous bases This brings us back to the hypothesis that a disturbance of inorganic metabolism is the immediate exciting cause of tetany There are, Greenwald insists, two and only two, well authenticated metabolic changes after parathyroidectomy One is the lowered calcium content of the serum or plasma, and the other is the diminished excretion of phosphorus in the urine These must be regarded as being intimately connected with the sequence of symptoms No theory of the causation of tetany, he concludes, can be considered adequate if it fails to take both of these into consideration The problem becomes greatly simplified if the detoxication theory may at length be abandoned, or at least returned to its supporters to supply more convincing evidence

1 Greenwald, I Are Guanidines Present in the Urines of Parathyroidectomized Dogs? J Biol Chem 59 329 (March) 1924

# Association News

## THE CHICAGO SESSION

**For prompt registration, bring with you to the Chicago Annual Session your 1924 Fellowship pocket card**

### Rush Medical College Faculty and Alumni Dinner

The Rush Medical College Faculty and Alumni Dinner at the Auditorium Hotel, Chicago, at 6 30 p m, Wednesday, June 11, will be in honor of Dr Frank Billings Dr, Charles A Parker, 7 West Madison Street, Chicago, of the Alumni Association of Rush Medical College, is in charge of arrangements for the dinner

### Reunion of Camp Grant Base Hospital Officers

A reunion of the officers of the Base Hospital at Camp Grant (1917-1920) will be held at a dinner at the Hotel Sherman in Chicago, Wednesday, June 11, at 6 30 p m Those intending to be present are requested to communicate immediately with Dr Frank Phifer, 7 West Madison Street, Chicago Service a la ammunition cart

### Johns Hopkins Medical Alumni

The Johns Hopkins Medical Alumni will hold their annual dinner at the Hotel Sherman, Wednesday, June 11, at 7 p m All Hopkins men are urged to be present Dr Herman P Davidson, Room 821, 22 East Washington Street, Chicago, secretary of the Illinois Medical Alumni of Johns Hopkins, will make reservations for the dinner

### Jefferson Medical College Alumni Association

There will be a dinner for the alumni of the Jefferson Medical College at the Sherman Hotel at 6 30 p m, Wednesday, June 11 Several of the Jefferson Medical College Faculty will be present Reservations may be made through Dr Frank M Phifer, 7 West Madison Street, Chicago

### Class of 1904 Rush Medical College

The Class of 1904 Rush Medical College will have its reunion at a midnight frolic at the Auditorium Hotel, Wednesday, June 11, at 11 p m Dr Austin A Hayden, Room 2009, 25 East Washington Street, Chicago, will provide information about the program

### Return Railroad Certificates Necessary for Reduced Fare

The attention of those who will attend the Seventy-Fifth Annual Session of the American Medical Association is once more, and finally, called to the fact that return certificates will be necessary for securing reduced railroad rates These certificates must be obtained from ticket agents at the time tickets to Chicago are purchased These certificates must be signed by the Secretary of the Association and properly validated by special agents of the railroads, after which they will entitle their holders to one-half fare for the return trip to their homes Validation must be made between June 9 and June 13 The certificates will not be honored after June 17

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### Physicians' Golf Association

The dinner which was to terminate the meet of the Physicians' Golf Association, Monday, June 9, at Olympia Fields Country Club, will not be held The members of the golf association plan to attend the dinner to Dr George H Simmons, editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

### Hygeia—Prize Contest for Health Posters

The response of high school pupils in all parts of the United States and Canada to the prize contest for health posters has far exceeded the expectations of the Editorial Board More than 1,400 posters have been submitted at the time this is written They are arriving at the rate of 200 to 300 a day The originality shown in some of the health slogans, the telling manner in which they are represented, the drawing and exquisite coloring are quite remarkable as coming from pupils of high school age

A display of a few hundred of the posters has been arranged on the sixth floor of the A M A Building, at 535 North Dearborn Street The members of the Association in attendance at the annual session are cordially invited to visit this exhibit

### Alumni of Boston Floating Hospital

The Boston Floating Hospital Alumni are planning to hold a luncheon at the Chicago City Club, 315 Plymouth Court, on Wednesday June 11, at 12 30 o'clock

Dr L W Smith, resident physician of the Boston Floating Hospital, is in charge of arrangements for the luncheon

**For prompt registration, bring with you to the Chicago Annual Session your 1924 Fellowship pocket card**

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH ETC.)

## ARKANSAS

**Hospital for Little Rock**—The Missouri Pacific Railroad will erect a $750,000 hospital at Little Rock on Lincoln Avenue. It is expected that the new institution will be ready for occupancy about October 1 of this year.

## CALIFORNIA

**Personal**—Dr. Ralph W. Homer has been reappointed physician to Ventura County.——Dr. George F. Pache, Angels Camp, has been appointed health officer of Calaveras County.

**State Medical Meeting**—At the fifty-third annual meeting of the California Medical Association, May 12-15, at Los Angeles, the following officers were elected for the ensuing year: president, Dr. Edward N. Ewer, Oakland, vice president, Dr. Harry E. Alderson, San Francisco, secretary, Dr. Emma W. Pope, San Francisco, and editor, Dr. William E. Musgrave, San Francisco. The next meeting will be held at Yosemite National Park in 1925. At that meeting, a bronze tablet will be dedicated to Dr. Lafayette Houghton Bunnell, who was one of the first party of white men to enter the Yosemite Valley in March, 1851. He proposed the name Yosemite and was the first to proclaim its beauty and wonders to the world. Dr. Howard A. Kelly, Baltimore, who brought this matter to the notice of the California Medical Association, has been invited to participate in the dedication ceremonies.

## COLORADO

**Study of Indian Psychology**—Prof. Thomas R. Garth, under the auspices of the educational research bureau of the University of Denver, is studying Indian psychology, covering intelligence, achievement, will, temperament, musical talent and color preference. Three expeditions have been sent out, one to Chilocco, Okla., another to Santa Fe and Albuquerque, N. M., and the third on the Ute and Navajo reservations in Colorado and New Mexico.

## CONNECTICUT

**Sentenced for Manslaughter**—According to reports, Dr. Joseph T. Spoth, Falls Village, was sentenced to from ten to fifteen years in the state prison by Judge Brown in the County Superior Court, May 13, when he pleaded guilty to a charge of manslaughter in connection with the death of his wife, March 19. Dr. Spoth is 64 years of age.

**Juvenile Clinic**—Through the generosity of Mrs. H. H. Jenkins, the Hartley Corporation has placed at the disposal of the juvenile courts, public schools, social agencies and parents of Connecticut a clinic for child study at Hartford. The clinic, which will be known as the Helen Hartley Jenkins Juvenile Clinic, will make a physical, psychologic, psychiatric and social study of each child referred to it, and when needed will recommend a method of treatment. Dr. Thomas W. Salmon, professor of psychiatry, Columbia University, New York City, will conduct the clinic, and he has appointed Dr. Otto G. Wiedman medical director and psychiatrist, and Dr. Harold A. Bancroft assistant psychiatrist.

## DISTRICT OF COLUMBIA

**District Society News**—The bill which passed the House, April 4 (THE JOURNAL, April 19, p. 1271) amending the charter of the Medical Society of the District of Columbia, has passed the Senate and will now go to the President for signature.

**Deputy Coroners' Bill Passes Senate**—The bill to amend section 196 of the Code of Law for the District as follows, has been passed by the Senate:

Deputy coroners. The commissioners of said District shall have authority to appoint two deputy coroners who shall assist the coroner in the performance of his duties aforesaid and shall perform the same duties in case of the absence or disability of the coroner. The deputy coroners shall serve and receive pay only in case of the absence or disability of the coroner and when serving their duties shall be the same as the aforesaid duties of the coroner. The deputy coroners shall while acting receive compensation at a rate not exceeding $5 per day to be paid as other expenses of said District and each shall give bond in the penalty of $2,500 with security to be approved by the Supreme Court, conditioned for the due performance of his duties.

**Child Labor**—The twentieth anniversary conference on child labor was held in Washington, May 27-28, in the Hall of Nations, under the auspices of the National Child Labor Committee. Five sessions were held as follows: Child Labor—A National Problem, The Constitutional Amendment, Problems of State Administration, Why a Child Labor Amendment? and The Federal Government and Child Labor. Among the speakers were Samuel M. Lindsay, Ph.D., New York, Royal Meeker, Ph.D., Harrisburg, Pa., Felix Adler, Ph.D., New York, and Samuel Gompers, president of the American Federation of Labor.

## FLORIDA

**Hospital Name Changed**—The Miami City Hospital, Miami, will in future be officially known as the James M. Jackson Memorial Hospital.

**Chiropractor Fined**—According to reports, J. G. Avery, a chiropractor of Baldwin, was fined $100 on three counts, May 5, when he was found guilty of practicing medicine without a license.

## IDAHO

**Society News**—At the annual meeting of the Idaho Falls Medical Society, May 2, Dr. Entelles A. Cantonwine was elected president, Dr. Harry L. Willson, vice president, and Drs. Jabez W. West, Jr., Harry D. Spencer and Arthur R. Soderquist were named as delegates to the state medical convention to be held in Boise, June 20-21.

## ILLINOIS

**Society News**—The next annual meeting of the Illinois State Medical Society, the seventy-fifth, will be held in Quincy and not in Springfield as previously stated.——The Illinois Tuberculosis Association will hold a postgraduate course in the latest methods of the diagnosis and treatment of tuberculosis in Quincy, June 2, under the auspices of the school of instruction in tuberculosis of the association. Drs. James W. Pettit and Roswell T. Pettit, of Ottawa, Dr. George T. Palmer, Springfield, and Dr. James S. Pritchard, Battle Creek, Mich., will give the courses.——At the annual meeting of the state association Dr. Harold Swanberg, secretary of the Adams County Medical Society, was elected vice-president of the secretaries' conference.——Dr. Ray Lyman Wilbur, President of the American Medical Association, addressed the Champaign County Medical Society, May 27, on "Progress in Medicine."

### Chicago

**Chicago Tuberculosis Society**—At the annual meeting of the Chicago Tuberculosis Society, May 15, Dr. Nathaniel A. Graves was elected president for the ensuing year, Dr. Robert H. Hayes, vice president, and Dr. Samuel A. Levinson, secretary. The next meeting will be held in October.

**Personal**—Dr. John A. Hornsby, for several years superintendent of the Michael Reese Hospital, Chicago, has been appointed superintendent of the University of Virginia Hospital, Charlottesville.——Dr. Florence B. Seibert has for the second time been appointed a research fellow of the William T. Porter Fellowship for physiologic research administered under the auspices of the American Physiological Society. She will pursue her research work in the laboratories of Dr. Harry Gideon Wells, at the University of Chicago.——Dr. Norman Bridge, formerly of Chicago, and donor of the Norman Bridge Laboratory, has subscribed $150,000 to the Southwest Museum of Art, Los Angeles.——Dr. Arthur I. Kendall, professor of bacteriology and dean of Northwestern University Medical School, has been appointed professor of bacteriology and hygiene at Washington University School of Medicine, St. Louis.——Dr. Ralph B. Cobb has been appointed superintendent of the Iroquois Memorial Hospital, Chicago.

## IOWA

**Personal**—Dr. Granville N. Ryan, Des Moines, has been elected a member of the board of executives of the American College of Physicians.——Dr. Jane D. M. Wright, Clear Lake, was elected president of the Society of Iowa Medical Women, at the annual meeting in Des Moines, May 6.

**Physician Fined**—According to reports, Dr. John Hamilton, Cedar Rapids, was fined $100 in the federal court at

Dubuque, recently, when he was found guilty of violating the Volstead Act It was stated by his attorney that Dr Hamilton was using whisky only as a stimulant to sustain the life of an old resident of the city

**Alumni Reunion**—The thirteenth clinic of the State University of Iowa College of Medicine was recently held in Iowa City, when old students and graduates, as well as physicians from other cities, attended Walter A Jessup, Ph D, president of the university, delivered the address of welcome, and Dr Alfred N Richards, professor of pharmacology, University of Pennsylvania, Philadelphia, spoke on "Some Recent Experiments on the Function of the Kidney"

## KENTUCKY

**Health Week**—Kentucky celebrated its first Health Week, May 11-17 Sermons on health were given in all the churches, May 11, Monday was health conservation day, Tuesday, public premises clean-up day, Wednesday, fly prevention day, Thursday, children's day, and Friday, milk and food day

**Rural Clinic**—A party of twenty-five, including Dr Charles H Mayo of Rochester, Minn, and Dr Arthur T McCormack, secretary of the state board of health, recently gave a free clinic at the Stuart Robinson School, Blackley Nearly 500 residents of the surrounding mountainous district attended the clinic

**Society News**—Dr William T Little, Calvert City, was elected president of the Southwestern Kentucky Medical Association at Paducah, May 13, to succeed Dr Herbert H Hunt, Mayfield Dr Claude E Kidd, Paducah, and Dr H Rufus Boitnott, Dawson Springs, were elected vice presidents, Dr James T Reddick, Paducah, treasurer, and Dr James Vernon Pace, Paducah, secretary

**Chiropractors Get Injunction to Stay Examinations**—A temporary restraining order preventing the state board of health from holding an examination, scheduled for May 12-13 at Louisville, was issued, May 12, by Circuit Clerk Arthur following application filed by the Kentucky Association of Chiropractors The petition alleges that the first examination, held under the 1920 state law, was unfair to the chiropractors, and that the questions asked were so rigid that it was impossible for chiropractors to pass the examination

## LOUISIANA

**University News**—In the report of the president of Tulane University of Louisiana School of Medicine, New Orleans, for the session 1922-1923, it was stated that the assets of the university have been increased considerably through bequests and donations The Carnegie Corporation donated $837,500 for the school of medicine and $41,875 for current expenses, and the General Education Board, $35,625 The sum of $77,909 was received in student fees, $38,454 from endowment, and $77,500 in gifts The total assets of the school of medicine were stated at $1,197,215

## MASSACHUSETTS

**Personal**—Dr Karl R Bailey, bacteriologist of the health department, will succeed the late Dr Philip Castleman as deputy health commissioner of Boston

**New England Health School**—More than 1,200 people attended the New England Health Institute held in Boston, recently, under the leadership of Dr Eugene R Kelley, state health commissioner Eighty-five lectures were given The sponsors for the school included the state departments of health of all New England states, the schools of public health of Harvard and Yale, the departments of biology and public health of Simmons College and Massachusetts Institute of Technology and the federal public health service At the annual business meeting, May 15, it was decided to hold the next session in Maine, and Dr Clarence F Kendall, health commissioner of Maine, was elected director of the 1925 session

**Licenses Revoked**—The Massachusetts Board of Registration in Medicine, May 2, revoked the license to practice of Dr Daniel W Dorman on complaint alleging violation of the Harrison Narcotic Law——The same day, the certificate of registration of Dr John Therrien was suspended for one year Dr Therrien testified that he had introduced a sound, and later an irrigating tube, into the uterus of a young woman for the purpose of relieving dysmenorrhea The patient developed peritonitis, and a subsequent operation by a surgeon revealed a puncture of the uterus The patient died The board stated that the methods employed by Dr Therrien seem to indicate lack of adequate judgment and skill——March 27, the board revoked the license of Dr Joseph Arthur Chausse, New Bedford, on the ground of fraud in connection with the practice of medicine——The board also revoked the license of Dr Horace G MacKerrow, Worcester, February 13, according to reports, on a charge of rape

**Society News**—The one hundred and forty-third annual meeting of the Massachusetts Medical Society will be held in Swampscott, June 6-7, with Dr Enos H Bigelow, Framingham Center, presiding The Shattuck lecture will be delivered by Dr Charles Macfie Campbell, director of the Boston Psychopathic Hospital, on "Psychiatry and the Practice of Medicine," and Dr Lloyd D Felton, of Harvard Medical School, will speak on "Concentrated Antipneumococcus Solution"——At the annual meeting of the Massachusetts Society of Examining Physicians in Boston recently, Dr Charles S Benson, Haverhill, was elected president, Drs Hilbert F Day, Timothy Leary and Cadis Phipps, vice presidents, and Dr William P Coues, Brookline, secretary——At the annual meeting of the Middlesex North Medical Society at Lowell, Dr Archibald R Gardner was elected president, and Dr Theodore A Stamas, secretary——A public meeting was held in Boston, April 25, under the auspices of the state medical society, the subject being "The Control of Diphtheria by the Use of the Schick Test and Toxin Antitoxin" Dr James S Stone, of the committee of public instruction, presided, and introduced the speakers who were Drs Hans Zinsser, Benjamin White, Edwin H Place and John A Ceconi——At the annual meeting of the Massachusetts Tuberculosis League, Dr Edward O Otis was elected president, and Dr Kendall Emerson was elected vice president——At the eighty-third annual meeting of the Essex North District Medical Society in Lawrence, May 14, the following officers were elected for the ensuing year president, Dr Joseph A Bedard, Lynn, vice president, Dr Edwin D Towle, Salem, treasurer, Dr Andrew Nichols 3rd, Danvers, and secretary, to succeed Dr Forrest Burnham, Lawrence, Dr R E Stone, Beverly

## MICHIGAN

**Personal**—Dr Harry C Irvin has been appointed health officer of Holland to succeed the late Dr Byron B Godfrey——Dr Arnold L Gesell, professor of child hygiene, Yale University School of Medicine, New Haven, Conn, gave a lecture illustrated with moving pictures, on "Mental Hygiene of Early Childhood," in the Lincoln School Auditorium, Kalamazoo, May 13——Dr A G Cowles has been reappointed health officer of Vernon——Dr Thomas E DeGurse has been appointed health officer of Marine City——Dr Charles N Sowers, Benton Harbor, has been elected chief of staff of Mercy Hospital to succeed the Dr Henry V Tutton——Dr Henry A Shurtleff has been reappointed health officer of Marshall

## MISSISSIPPI

**Personal**—Dr Henry S Gully, Meridian, has been elected superintendent of the Mattie Hersee Hospital to succeed Dr H Samuel Hairston——Dr Charles M Roberts, Tupelo, has tendered his resignation as health officer of Lee County He will go to Honduras, Central America——Dr Felix Joel Underwood, Jackson, has been appointed executive secretary of the state board of health to succeed Dr Waller S Leathers, who resigned, recently, to join the faculty of Vanderbilt University Medical Department, Nashville, Tenn

## MISSOURI

**Hospital News**—On April 28, the roentgen-ray and radium laboratories of the St Louis City Hospital were opened to private inspection, and put in operation, April 30 The quantity of radium owned by the city is 545 milligrams The building is especially adapted to the use of the roentgen ray and the application of radium, contains special facilities for the treatment of fractures, and a special operating room for the removal of foreign bodies and the application of deep therapy in the treatment of cancer Dr LeRoy Sante is head of the department

## NEW HAMPSHIRE

**Hillsborough County Elects**—At the annual meeting of the Hillsborough County Medical Society in Nashua, May 12, Dr Nathaniel F Cheever, Greenfield, was elected president, Dr Sam S Dearborn, Nashua, vice president, and Dr Deering G Smith, Nashua, secretary-treasurer

## NEW JERSEY

**Chiropractor Jailed**—According to reports, John H Conover, Union Hill, was fined $500 by Judge Carrick in Jersey City, April 29 on a charge of practicing medicine without a license Refusing to pay, Conover will have to serve fifty days in the county jail

## NEW YORK

**Periodic Health Examinations**—At a recent meeting of the New York County Medical Society a resolution was passed that the society immediately take steps, through an appropriate committee, to formulate a feasible and workable plan to promote periodic health examinations through the agency of the general practitioner

**Water Supply System for Albany**—Plans for extensive improvements to Albany's water supply system, or the establishment of a new system to cost $1,000 000, are being developed as the result of the typhoid fever epidemic through which the city recently passed Pollution of the water supply resulted in fifty-two cases of typhoid fever in one week

**Hospital Appropriations**—The state board of estimate and control has apportioned $12,402,500 for the construction of new buildings at state hospitals to relieve overcrowding and eliminate fire-traps This sum represents the first year's proceeds of the $50,000,000 bond issue approved by the voters at the last election The money is apportioned as follows

Kings Park State Hospital Kings Park L I, $1 930 000 to complete the special group of buildings for ex service men suffering from mental disorders
Brooklyn State Hospital Creedmoor L I $3 500 000 for completion
Harlem Valley State Hospital Dutchess County $2 570 000 to convert the Wingdale prison into the above mentioned hospital
Manhattan State Hospital Wards Island $60 000 to repair parts destroyed by fire
Matteawan State Hospital for Criminal Insane $1 000,000 for enlargement
Letchworth Village for Feebleminded Thiells $1 812 500 for enlargement
State Hospital for Crippled Children West Haverstraw $295 000 for enlargement
The balance of the funds will be expended on enlarging the Rome State School for Mental Defectives and the Craig Colony for Epileptics Sonyea

### New York City

**Academy of Medicine Building Plans**—Building plans drawn by York and Sawyer, architects for the new Academy of Medicine to be erected on the recently acquired site at One Hundred and Third Street and Fifth Avenue, provide for a fourteen story building to cost $750,000

**A Christian Science Healer Treats Diphtheria**—After a necropsy on the body of Mrs Lena Jacobson, who died while under the care of a Christian science healer, Chief Medical Examiner Charles Norris reported that the woman had died of diphtheria and that in all probability the timely administration of antitoxin would have saved her life The case has been referred to the police department for investigation

**City Hospitals to Use Chlorin Gas**—Health Commissioner Dr Frank J Monaghan announces that the health department has decided to experiment with the use of chlorin gas in the treatment of colds, bronchitis and other respiratory affections The first experiments, according to the present plans, will be made in Willard Parker Hospitals, and if these are successful this method of treatment will be introduced in other contagious disease hospitals of the health department

**Memorial in Honor of Dr George MacNaughton**—At the monthly meeting of the Medical Society of the County of Kings, May 21, a bronze tablet of Dr George MacNaughton, who was president of the society in 1891 was presented by his nephew, Frederick L Cranford The memorial was accepted in behalf of the society by Dr Frank E West, who was president of the organization succeeding Dr MacNaughton The address of the evening was made by Dr Ray Lyman Wilbur President of the American Medical Association, who spoke on 'Medical Education' Dr Lewis S Pilcher also made a brief address on 'Medical History in Medical Education"

**Chiropractor Gets Jail Term**—Convicted of practicing medicine illegally, James V Sicca of 1327 Bushwick Avenue Brooklyn, has been sentenced to thirty days in the Raymond Street jail by Justices Nolan Voorhees and Hermann in the Court of Special Sessions The defendant admitted that he was not even a graduate of a grammar school and that his sole qualifications were a two-year course in a chiropractic school Manhattan detectives on May 22 raided the Central Health Institute at 40 West Fifty-Seventh Street, and arrested Hedley V Carter the proprietor of the institute, and his assistant They were held in $500 bail in the West Side Court charged with illegally practicing medicine

**Hospital News**—The directors of Montefiore Hospital have given $450,000 as the nucleus of a fund for new buildings at the Country Sanatorium at Bedford Hills——The municipal hospitals now have 200 beds for cancer cases, but provision is being made for 250 extra beds for such cases——The new $500,000 hospital in the Bronx, at the corner of Lafayette Avenue and Manida Street, was dedicated, May 11 The superintendent of the institution will be Dr S B Hirschberg, who has been superintendent of the General Hospital, Kansas City, Mount Zion Hospital, San Francisco, and Beth Moses Hospital, Brooklyn The chief resident physician is Dr David Miller——The Jewish Home for Convalescents, Brooklyn, was opened, May 3 At the dedicatory exercises the key to the institution was sold for $1,500 to Mrs Nathan S Jones, the next highest bidder, who offered $1,400 for the key, donated that amount to the future building fund The home will care for destitute patients for two weeks after their removal from hospitals——The erection of a new $2,000,000 structure to house Lebanon Hospital will commence in a few months, according to a recent announcement made by the superintendent of that institution The new building will be located on the Grand Concourse and will command a view of the Harlem River The structure will be ten stories high and will accommodate 300 patients There will be separate buildings for the training school and the dispensary Dr Gustav Seeligmann is president of the medical board——The Norwegian Hospital celebrated its twenty-fifth anniversary, May 14 Drs Beeckman J Delatour and Edward D Ferris were the guests of honor at the banquet ——A movement has been started to reopen the Williamsburg Hospital, Brooklyn, which closed in 1922 because it could not meet the annual deficit Physicians present declared that the hospital was badly needed in that section of Brooklyn Among the new directors elected are Dr Theodore L Vosselor, Dr Richard A Henderson and Dr Robert J Morrison——The state board of charities, satisfied of the great need of this city for a hospital devoted exclusively to the care and treatment of persons suffering from incipient mental and nervous diseases, has approved the charter of the Neurological Hospital The Neurological Hospital will be a strictly philanthropic institution, serving as a preventorium for mental diseases Patients will be examined on the group diagnosis plan Attendance will be entirely voluntary, in contradistinction from the asylums where the sufferer is conducted and retained by force, thus saving him from mortification of practical imprisonment previous to a thorough examination The board of directors has pledged $250,000 to establish this institution for those who cannot afford to go to a private sanatorium

## OHIO

**State Medical Meeting**—Officers elected at the annual meeting of the Ohio State Medical Association in Cleveland, May 13-15 for the ensuing year are as follows president Dr George E Follansbee, Cleveland, president-elect, Dr Clarence D Selby, Toledo, and executive secretary, Don K Martin, Columbus (reelected) The next meeting will be held in Columbus in May, 1925

## OKLAHOMA

**Personal**—Dr Lucile S Blachly, Drumright, has been named director of the bureau of child hygiene

**State Medical Meeting**—At the thirty-second annual meeting of the Oklahoma State Medical Association in Oklahoma City, May 13-15 the following officers were elected for 1924-1925 president, Dr Everett S Lain, Oklahoma City, president-elect, Dr Pleasant P Nesbitt, Muskogee, vice presidents, Drs George S Baxter Shawnee, Walter H Livermore, Chickasha and Joseph S Fulton Otoka, and secretary-treasurer and editor, Dr Claude A Thompson (reelected) Tulsa was selected as the next meeting place Legislation was urged for the establishment of a permanent state medical commission A letter from the American Medical Association suggesting that other states had "cleaned house—why not Oklahoma?" was read, and it was stated that the state board of medical examiners had been guilty of leniency in giving licenses, in that it gave reciprocity to impostors whom other states had turned down The state board of medical examiners for some time has been attempting to round up the graduates of the diploma mills practicing in Oklahoma A member of the board stated that although it did everything

possible to keep out illegal practitioners, the board was handicapped because any district court could set aside its rulings, and quoted two recent cases in which licenses had been revoked and the men were still practicing

## PENNSYLVANIA

**Personal**—Dr Joseph H Barach, Pittsburgh, addressed the medical section of the College of Physicians of Philadelphia, April 28, on "Arterial Hypotension"——Dr Joseph C Doane, superintendent of the Philadelphia General Hospital, Philadelphia, was recently elected president of the Hospital Association of Pennsylvania

**Cultists Compelled to Take Antitoxin**—Having forcibly administered toxin-antitoxin to members of Faith Tabernacle, Lebanon, local health authorities are hopeful of checking the spread of diphtheria, which during the past three weeks has caused the death of nine children (THE JOURNAL, May 17, p 1618) Five deaths occurred in one family Among others, toxin-antitoxin was administered to the family of the pastor of the tabernacle, whose youngest son has diphtheria

**Mental Health Work**—A community service department was organized in August, 1921, for the purpose of establishing mental health clinics in various cities of the state Since that time, clinics have been opened in Wilkes-Barre, Sunbury, Berwick, Hazelton, Lock Haven, Williamsport and Danville In the last seven months, 1,032 patients have been seen and advised Lectures, on the cause and prevention of mental diseases, to students of the universities and normal schools, are concluded by a clinic at a hospital where various types of mental disease are demonstrated by cases, and methods of treatment are explained in the wards of the hospital

### Philadelphia

**Public Health Day**—Philadelphia celebrated its eighth annual public health day, April 30 The principal feature of the exercises was a mass meeting in the Academy of Natural Sciences which was addressed by Dr Wilmer Krusen, director of health, Col John D McLean, Dr Alexander C Abbott and James M Anders Dr James H McKee broadcasted a talk on child hygiene earlier in the evening

**Joint Meeting of Psychiatric and Pediatric Societies**—The combined meeting of the Philadelphia Psychiatric and the Philadelphia Pediatric Societies was held in Thompson Hall, College of Physicians, May 13, and the subject of the program, prepared by the mental hygiene division of the Public Charities Association was "Mental Hygiene in Childhood" Dr Bernard Glueck of New York City spoke on "The Place of Psychiatry in a Child Guidance Clinic" Papers were read also by Drs Franklin G Ebaugh, Charles W Burr and Emily P Bacon

## SOUTH CAROLINA

**Tri-County Medical Society Organized**—A reorganization meeting of the Little Pee Dee Medical Society was held in Marion May 8 The society was formed two years ago, but did not function owing to the fact that the society could not operate as a single county unit It has now organized as a tri-county society with Marion, Horry and Dillon counties included Dr Dove W Green, Mullins, is secretary of the organization

## TENNESSEE

**Hospital News**—A contagious disease hospital building will be erected at Baroness Erlanger Hospital, Chattanooga, in the rear of the present institution and entirely separate from the main building Since the former pest house was destroyed by fire several years ago, there has been no special provision made for contagious diseases in the city

## VIRGINIA

**Personal**—Dr Joseph N Barney, Jr, Fredericksburg, major, M O R C, has been selected by the War Department as one of seven reserve officers in the United States to report for duty at Mitchell Field, L I, for a special course of instruction as advanced flight surgeon in the air service In the army correspondence course examination of officers, Dr Barney received the highest grade in the eighteenth division area——Dr Joseph Grice, Portsmouth, has been appointed medical inspector of schools, succeeding the late Dr E Alexander Hatton

**Walter Reed Medical Society**—Officers elected at the annual meeting of this society in Newport News, May 14-15, for the ensuing year are as follows president, Dr George W Brown, Williamsburg, vice presidents, Drs George E W McAllister, Hampton, Morris B Beecroft, Newport News, Leslie C Brock, Smithfield, Cornelius B Courtney, Newport News, and John J Cullinan, Hampton, secretary, Dr Landon E Stubbs, and treasurer, Dr James E Marable A ways and means committee was appointed to consider the acquisition and perpetuation of Belroi, the former home of Walter Reed, as a memorial The present owner will sell the house with one acre of land for $1,000, it was announced

## WISCONSIN

**Course for State Board Physicians**—An intensive course in medical instruction, open to physicians on the staffs of all institutions under the state board of control, was given at the Wisconsin Psychiatric Institute, Madison, May 19-24, with the cooperation of the University of Wisconsin Medical School Dr Paul C Hodges, professor of roentgenology, Peking Union Medical College, China, who is on leave of absence, spoke on "Early Diagnosis of Tuberculosis", other lecturers were Dr William F Lorenz, professor of nervous and mental disease, University of Wisconsin, W J Meek, Ph D, professor of physiology, Dr W S Middleton, professor of clinical medicine, and Dr Morton K Green, superintendent of the Wisconsin State Hospital

## WYOMING

**Mental Health Survey**—Under the auspices of the National Committee for Mental Hygiene, a survey was recently made in the public schools of Wyoming Of the 3,885 public school children included in this study, 94 per cent were native born, but more than one fourth of the parents were foreign born In comparing their mental age with their actual age, it was found that 11 per cent were retarded more than two years, and 33 per cent were retarded one or two years At the state industrial institute there were seventy-five boys from 11 to 25 years of age, and of these fifty presented psychiatric problems Forty-one had psychopathic personalities, four were borderline defectives, three were mental defectives, one had a psychoneurosis, and one endocrine imbalance

## PHILIPPINE ISLANDS

**Public Health News**—The health officer's report states there was in 1923 a general death rate of 9 8 per thousand population reported in the prisons, fifty prisoners died of tuberculosis, which disease had the highest mortality, more than 5,000 prisoners were admitted to hospitals for treatment ——The district health officer of Iloilo reports an annual death rate of 19 2 for 1923 as compared with 27 9 for the last five years——Malaria campaigns are being conducted in various provinces in charge of a sanitary engineer from the Rockefeller Foundation——The general death rate for Ilocos Sur is reported as 15 6 as compared with an average rate of 23 8 for the last five years and an infant mortality rate of 128 3 as compared with 184 9 per thousand births in the last five years——Surg Bienvenido Caro recently returned from Leyte where he had conducted a hookworm campaign in Taclobin, Borawen, Dulag, Tanawin, Carigara and Ormoc More than 90 per cent of the population were found to be infected

## CANADA

**Rockefeller Gift to Alberta**—The sum of $500,000 has been given to the University of Alberta Faculty of Medicine, Edmonton, Alta, by the Rockefeller Foundation of New York City Another donation has been given for the extension of work on the use of insulin

**Society News**—The Ontario Health Officers' Association, at present in convention at Toronto, Ontario, recently elected the following officers for the coming year president, C N Laurie, M D, Port Arthur, Ont, first vice president, Dr F Adams, M O H, Windsor, Ont, second vice president, T W McKay, M D, Oshawa, Ont, secretary, Dr J J Middleton, Toronto, Ont——The Women's Medical Alumnae of the University of Toronto recently tendered their annual dinner to the ladies of the medical graduating class, thirty-five local women physicians and seventeen graduates were present Dr Augusta Stowee-Gullen, who attended the banquet, was the first woman physician to obtain her degree in Toronto thirty-four years ago The president, Dr Jennie Smillie of Toronto was the chief speaker at the banquet

**Hospital News**—To study the methods and results at the Sick Children's Hospital, Toronto, Canada, a number of physicians from the United States, Great Britain and Canada will meet in Toronto, June 13 and 14, 1924 They will make

their headquarters at the hospital and will spend their time interviewing cases and presenting papers A special feature will be a study of the Lakeside Home, Centre Island, Toronto, which is operated in the summer months by the Sick Children's Hospital——On receipt of a formal notice from the City Hall, Toronto, the officials of the Toronto (Ontario) General Hospital are prepared to refuse admittance to patients of the Ontario Workmen's Compensation Board unless the board is willing to pay full costs of the service This action follows a decision of the city council to advise all hospitals that the city will not be responsible for deficits occurred through these patients

## GENERAL

**Renewal of Narcotic Registration**—Registration under the Harrison Narcotic Act expires June 30 Prompt renewal will save registrants from annoyance and payment of penalties Physicians planning to attend the Chicago Session may find it desirable to renew their registration before they leave home

**Solicitor for Funds for German Physicians Not Authorized**—Dr S Adolphus Knopf writes that he has received a statement from the consul-general of Austria, and also directly from Vienna, indicating that one Dr Loeffler, who, it is stated, has been soliciting funds for the Verein deutscher Aerzte in Austria, is not authorized by that organization

**Appeal for Hospital Beds in London**—An appeal is being made to Americans for the endowment in the Washington ward of the Royal Free Hospital, London, of two beds, one in memory of Dr Elizabeth Blackwell, the first woman physician to graduate in America (University of Geneva, N Y 1849), and the other in memory of Martha Washington Mrs B S Oppenheimer, 124 East Sixty-First Street, New York City, is treasurer of the fund

**Prize for Scientific Apparatus**—The *Journal of the Optical Society and Review of Scientific Instruments* announces that the Association of Apparatus Makers of the United States will give a prize of $250 for the best paper on scientific instruments and methods presented between May 1 and December 31, for publication in the instrument section of the journal This prize will be awarded by a committee to be appointed by the National Research Council

**Review of Framingham Demonstration at British Exhibition**—Dr Ralph C Matson, Portland, Ore, has been invited to present the story of the tuberculosis demonstration at Framingham, Mass, conducted for seven years by the National Tuberculosis Association before the International Health Conference at Wembley Exhibition, England Dr Donald B Armstrong, of the Metropolitan Life Insurance Company, New York, who was in charge of the demonstration, furnished the material for the monograph

**One Bill of Health for Ships to Peru**—The Public Health Service at Washington D C, is in receipt of information from Lima Peru, to the effect that ships from the United States to Peru, passing through the Panama Canal, will be required to have only one bill of health for reception in Peruvian ports The requirement heretofore has been that all such vessels must obtain a bill of health not only at Colon but also at Balboa This has resulted in double expense on the part of ships and also inconvenience in requiring all ships destined to Peru to stop at Balboa The order modifying the requirement was issued April 25, by President Medina of the Republic of Peru

**Care of the Feebleminded**—The federal census bureau has announced preliminary figures on the number of mentally diseased, feebleminded and epileptic persons in institutions in this country The following summary taken from the official announcement includes 526 hospitals for mental disease eighty-four psychopathic wards of general hospitals, 136 institutions for the feebleminded and thirty-two institutions for epileptics—a total of 778 institutions

| Class of Institution— | Patients on Books Jan 1 |
|---|---|
| Hospitals for mental disease | 279 559 |
| Psychopathic wards of general hospitals | 2 139 |
| Institutions for feebleminded | 43 636 |
| Institutions for epileptics | 3 823 |

**American Heart Association Organized**—With Drs Joseph Sailer and William D Stroud Philadelphia, Dr Hugh McCulloch St Louis, Drs Paul D White Henry Jackson and William H Robey, Boston Drs Haven Emerson, Robert H Halsey and Lewis A Conner New York City and Drs James B Herrick, Robert B Preble and Sidney Strauss Chicago as incorporators, the American Heart Association was approved May 20 by Supreme Court Justice Giegerich of New York The organization was effected by the National Committee for the Prevention and Relief of Heart Disease, organized several years ago to disseminate knowledge concerning functional derangement and maladies of the heart to promote scientific treatment of cardiac patients, and to select employment suitable to patients suffering from heart disease

**Fellowships of the National Research Council**—The medical fellowship board of the National Research Council had its regular semiannual meeting April 26, and continued the appointment of the following fellows, in some instances with a change of location of their work

| Name and Place of Work— | Specialty |
|---|---|
| Albritton Errett C, Ohio State University | Physiology |
| Andrus E C, University of Vienna | Physiology |
| Andrus W D University of Cincinnati | Surgery |
| Anson Barry J Harvard | Anatomy |
| Cone W V Columbia | Neuropathology |
| Kleitman Nathaniel University of Paris and University of Chicago | Physiology |
| Leonard, C S Yale | Pharmacology |
| McCordock H A Johns Hopkins | Pathology |
| Newman L H Harvard | Biochemistry |
| Sands M J Cambridge | Physiology |
| Smith, Francis M Johns Hopkins | Biochemistry |
| Smith Homer W, Harvard | Physiology |

From a list of fifty-two candidates the following fourteen were appointed

| Name and Place of Work— | Specialty |
|---|---|
| Britton Sydney W Harvard | Physiology |
| Chambers W H Cornell | Physiology |
| Drabkin David L Yale | Biochemistry |
| Hughes Thomas P Harvard | Bacteriology |
| Isaacs Moses L Columbia | Biochemistry and Immunity |
| Katz Louis N University of London | Physiology |
| Kennedy James A Harvard | Bacteriology |
| Loebel Robert O Royal Institute Berlin | Physiology |
| McKinley Earl B University of Brussels | Bacteriology |
| Miller Aura J Harvard | Pathology |
| Reed Carlos I University of Chicago | Physiology |
| Scriver W DeM Harvard | Biochemistry |
| Shambaugh Noel F University of Michigan | Biochemistry |
| Woodall Chas S Harvard | Biochemistry |

The following general action as to the administration of the fellowships was also taken A limited number of appointments to work abroad will be made, selections to be made because of special qualifications and on the initiative of the board, not the candidate Applicants may express a desire to work in a foreign country, but should also indicate with whom they would desire to work in this country if not accepted for work abroad

**Public Health Summer Schools**—The final announcement of the 1924 public health summer schools has been issued by the U S Public Health Service These schools will be conducted by Columbia University from July 7 to August 15 the University of California from June 23 to August 2, the State University of Iowa from June 9 to July 18, and the University of Michigan from June 23 to August 1 and 15 The announcement includes also a list of public health courses offered by the summer sessions of about fifty-two other universities and colleges In all, 233 separate courses in public health and allied subjects are offered by the four public health summer schools, and more than 300 courses by the summer sessions of the other universities and colleges The National Health Council believes that this is an unusual opportunity for high grade, systematic study, and is assisting the Public Health Service in bringing these summer schools to the attention of sanitarians throughout the country It is believed that the public health summer schools will afford a far more satisfactory opportunity for supplemental academic training than have any of the institutes conducted by the Public Health Service in the past or by other public health agencies since they will provide from six to eight continuous weeks of study Furthermore, the courses will cover a far wider range of subjects than are usually available at short term institutes Laboratories will be available Clinical material will be used for demonstrations, and other measures will be utilized to make the work highly practical The aim of these summer schools is (1) to provide up-to-date intensive training for all persons engaged in any kind of public health work (2) to furnish up-to-date instruction which will enable practicing physicians to deal effectively with the more important causes of mortality and disability and (3) to bring together physicians, health officers and other sanitarians and thus establish better cooperation in disease prevention Every physician who has already entered or is planning to enter some phase of public health work in connection with his private practice or with some health agency will be able at most any one of the public health summer schools, to find the type of training he needs to enable him to develop greater efficiency in his new work Most of the courses given by the University of California and the Univer-

sity of Michigan may be counted toward an advanced degree Nearly all the courses offered by Columbia University and the State University of Iowa are regularly scheduled for credit, those not specifically so indicated may be taken for credit by arrangement with the appropriate department or the dean of the college concerned During the next decade, thousands of men and women will enter various kinds of public health work, the announcement states A few will come from schools of public health with some special public health degree A much larger number, probably, will enter public health work directly from private medical practice, from private nursing, and from other occupations allied to public health work The public health summer school has been established for such persons, and for those who have already entered the field of public health without having had the opportunity of special academic training Those of either group may select at a conveniently located summer school two or more courses which will prove of immediate value in public health work or in any form of preventive medicine, irrespective of the academic credit gained The Public Health Service and the four universities conducting the public health summer schools have received thousands of inquiries, and a large attendance is expected

## FOREIGN

**Rockefeller Gift to Danish Savant**—The Rockefeller Institute has presented Prof August Krogh with the means of building a physiologic laboratory for research work at Copenhagen Dr Krogh was a Danish Nobel prize winner

**Australian Journal**—The first number of the *Australian Journal of Experimental Biology and Medical Science* was issued, March 15 It will be published quarterly J B Cleland, professor of pathology at the University of Adelaide, and T Brailsford Robertson, of the Laboratory of Physiology and Biochemistry, Adelaide, are the editors

**Air Service Ambulance**—The British air service has built a new ambulance plane with a cruising speed of 80 miles an hour and free from any form of vibration Painted white with the ordinary red cross on its side, it has a cabin 10 feet 6 inches long and 5 feet 9 inches wide Two stretcher cases and four sitting cases, with nurses and physicians, can be accommodated

**Insurance of Schoolchildren**—Switzerland, it is stated, is the first country to inaugurate government insurance of school children In some cantons it is voluntary, and in some compulsory The premiums are paid jointly by the children and the government The canton of Vaud was the first to insure its children——A bill for the insurance of school children against sickness has been introduced into the Portuguese Senate

**Exhibition of Physicians' Painting**—An exhibition of painting, the work of physicians, was given at the Royal Society of Medicine, London, May 26-June 14, under the auspices of Sir William Hale-White, president of the society Sydney Lockyer, the artist, selected the works The fourth "Salon des medecins" was recently held in Paris It is stated that many of the works of both the English and the French physicians are of high artistic merit

**Society News**—A meeting of the International Union of Pure and Applied Chemistry will be held in Copenhagen, June 26-July 1 The American delegation includes W D Bancroft, chairman, J E Zanetti, secretary, W A Noyes, W T Taggart, E J Atkisson, F E Breithut, H C Fuller, H C Loudenbeck, R A Millikan and Atherton Seidell—— At the annual meeting of the Tasmanian Branch of the British Medical Association at Hobart, February 20, the following officers were elected president, to succeed Dr Gregory Sprott, Dr G E Clemons, president-elect, Dr J Ramsay, vice president, Dr D H Lines, and secretary, Dr E Brettingham-Moore——The council of the Irish Medical Association has nominated for reelection as president and vice president of the association, respectively, the present officers, Senator W O'Sullivan of Killarney and Dr R C Purser of Dublin——It is proposed to establish an international society open to all medical officers of health taking part in the various interchanges organized by the League of Nations A provisional committee composed of representatives from Great Britain, Russia, France, Germany, Poland, Italy and Ecuador has been organized to draw up the constitution The society will have headquarters at Geneva All public health officers who have already taken part in the league interchanges—who number 240 from forty-three different countries—will be invited to become original members

### Deaths in Other Countries

**Dr Richard Jones**, a genito-urinary specialist of Australia, author of "Smallpox and Vaccination", formerly medical inspector of lepers on Culion Island, P I, in Victoria, aged 63——Dr **Thomas Borthwick**, for twenty-four years city health officer of Adelaide, Australia, and lecturer in bacteriology and hygiene at the University of Adelaide, aged 64——Dr **Richard J Reece**, senior medical officer of the ministry of health of Great Britain——Dr **Richard H Fox**, noted for his works on historical medicine, aged 71, at his home in England His five brothers and his father and grandfather were physicians——Dr **G H Oliver**, former lecturer in ophthalmology at the University of Oxford, aged 63——Major **F W Cragg**, British Indian Medical Service, of typhus fever contracted while conducting researches into the epidemiology and prevention of this disease in Lahore

## CORRECTIONS

**Death of Dr Chester Irving Fisher**—In the obituary notice of Dr Chester Irving Fisher, THE JOURNAL, May 17, the cause of death was stated as senility The diagnosis made by the attending physician was angina pectoris and coronary sclerosis

**Secretary of County Society**—Dr Myers W Horner, Mount Pleasant, was elected secretary-treasurer of the Westmoreland County Medical Society (Pa) at the annual meeting, May 15, not Dr Carroll B Rugh, as previously announced (THE JOURNAL, May 17, p 1618)

**Treatment of Acne Vulgaris**—The composition of the lotion used by Scott as given in his paper published in the *British Medical Journal*, January 26, was given incorrectly in THE JOURNAL, March 15, p 924 The doses of the various ingredients of this lotion are precipitated sulphur, from 8 to 20 gm, zinc oxid, 8 gm, powdered camphor, 1.33 gm, tragacanth, 2 gm, and lime water, 240 gm

# *Government Services*

### Hospitals Authorized

Pursuant to instructions of the Secretary of War, the organization of the following hospitals, organized reserves, has been authorized Surgical Hospital, No 43 (Milwaukee County Hospital Unit, Wauwatosa, Wis), evacuation hospitals, No 26 (St Vincent's Hospital Unit, New York), and No 39 (Knoxville General Hospital Unit, Knoxville, Tenn)

### Government Hospital News

Orders for the removal, by June 1, of all patients now at U S Veterans' Hospital No 26, Camp Sevier, near Greenville, S C, have been received by the commander, Dr Harrison M Stewart In accordance, thirty-seven patients will be transferred to Oteen, N C, near Asheville, fifteen will be sent to Kerrville, Texas, ten will be transferred to Alexandria, La, and the few remaining will be sent to hospitals not yet announced The hospital at Camp Sevier was established in 1919

### Bill to Retire Nurses Reported Favorably

Army and navy nurses will be granted retirement exactly as officers of the army and navy, under the provisions of a bill favorably reported to the Senate by Senator Wadsworth of New York In approving this measure the Committee on Military Affairs gives full recognition to the principle that army and navy nurses should be awarded longevity compensation on their retirement from the service and fixes the standards therefor on the same basis as that of regular officers of the army and navy The grades authorized in fixing the annual rates of pay, place superintendents of nurses in the relative rank of majors in the army, assistant superintendents, directors and assistant directors, with the same relative rank as captain, chief nurses as that of first lieutenants, and nurses as second lieutenants In approving the bill, Secretary of War Weeks, stated that "The Army Nurse Corps has reached a stage of splendid efficiency The individual members of this corps are highly capable and are daily performing very important and arduous work for the army I believe it just and proper, and in accordance with the spirit of the times, to accord these nurses retirement for length of service"

# Foreign Letters

## LONDON

*(From Our Regular Correspondent)*

May 5, 1924

### Standards of Vision for Scholars and Teachers

A memorandum has been issued by the Council of British Ophthalmologists on the standards of vision for candidates for scholarships and teacherships The council holds that these should not be granted to candidates suffering from such ocular defects as may be aggravated by long-continued study and lead to inefficiency or incapacity later in life It therefore endeavors to lay down standards of vision that shall exclude the unsuitable The average age of entry on a junior scholarship is 11 years, the holder is transferred to a secondary school for five years Supplementary scholarships are awarded at about 13 years of age, and are held for three or four years at a secondary school Intermediate scholarships are granted at about 16, for two or three years Senior county scholarships are granted at 18, and are tenable at a university for three or four years Between the ages of 17 and 20, prospective teachers undergo training at a college The errors of refraction considered of most importance in reference to education are myopia and high astigmatism Myopia is found in about 10 per cent of children at the leaving age in elementary schools, and, in about 10 per cent of those with myopia, it becomes a serious defect, in the remaining 90 per cent the defect causes little inconvenience apart from the necessity for wearing glasses It is generally agreed that, in many persons, prolonged near work on fine objects under comparatively poor lighting is a cause of myopia, or aggravates existing myopia, especially when astigmatism is present For prevention it is necessary to determine, at as early an age as possible, the unfavorable cases In elementary schools, cases of myopia of considerable degrees are found in children under 7, but the first routine test of vision is not made until about 8 Some with diminished visual acuity and considerable myopia are transferred to special classes, others are ordered glasses and return to school A child of 11 with 4 5 diopters of myopia is deemed unfit for a scholarship He must continue at the ordinary school or, exceptionally, go to a class for the myopic A child of this age with 1 5 diopters of myopia would be deemed fit for a scholarship Between the limits of 4 5 and 1 5 diopters there are many difficult cases Many young people with myopia have good visual acuity with correcting glasses, and apparently healthy fundi, yet their defect is often progressive The determination of the rate of progression is important

The following recommendations are made 1 In all candidates for scholarships and teacherships, the visual acuity, with correcting glasses, should be not less than 6/9 in the better eye 2 A child of 11 with less than 2 diopters of myopia in either eye should be passed A child of 11 with more than 2 or less than 3, on probation, should be reexamined every six months A child of 11 with 3 or more diopters of myopia in the better eye should be rejected for scholarship training At the age of 15, those with more than 4 diopters of myopia in the better eye should be deemed unfit to train for the teaching profession Entrants to training colleges, who are, as a rule, about 18 years of age, with more than 5 diopters of myopia in the better eye should be rejected 3 Simple myopic astigmatism exceeding 3 diopters in the better eye should be a cause of rejection both for scholarships and for training as teachers In compound myopic astigmatisms, unless the myopia is stationary, astigmatism of even 2 diopters may be a cause for rejection Persons with hypermetropic astigmatism should be rejected only if visual acuity, with correcting glasses, in the better eye is less than 6/9 4 If there is only one eye, or if there is only one useful eye, the other being amblyopic from nonprogressive disease, which in no way affects, or is likely to affect, the good eye, the case should be judged on the condition of the good eye In the case of candidates for university and technical senior scholarships, or those intending to specialize as teachers of certain technical subjects, greater latitude may be allowed after consideration of special circumstances as to the nature of the work, and the condition of the candidate's eyes in other respects

### The British Empire Cancer Campaign

At the Mansion House, the lord mayor presided over a meeting held in support of the British Empire Cancer Campaign Speeches were made by the Duke of York, who is president of the grand council of the campaign, the minister of health, and others, pointing out the widespread nature of the scourge for which they hope to find a remedy It was announced that $420 000 had been received, including an anonymous gift of $100,000 The organization enabled the money to be applied with a maximum efficiency under the best expert advice obtainable

Sir John Bland-Sutton, president of the Royal College of Surgeons, said that discoveries could not be made to order and that the cause of cancer was not going to be revealed in dreams He believed it was quite possible that the cause would one day be found by a genius working in his own way, and perhaps working by himself, but he had always persistently urged that it was wise and proper to give the independent worker facilities for working in established laboratories The money that was given to help to find the cause of cancer would enable experts to be freed from the cares of practice and to devote their time to research If they were successful, they would be able to reduce enormously the sum of human suffering

Prof W S Lazarus Barlow said that radium and the roentgen ray had been shown to be potent agents in the treatment of the disease, and work would proceed on that side The curious power that existed in certain persons suffering from cancer to hold it in equilibrium for a number of years and on rare occasions to conquer it was also of extraordinary importance He could not explain cases of that kind, nobody could, but they required further investigation

### Ban on Marriages of Poverty

Dr R A Gibbons, gynecologist to the Grosvenor Hospital, in a paper on the "State Certificates of Marriage," read before the Eugenics Education Society at Burlington House, put forward the suggestion that the state should prevent the marriage of those whose health, mental condition or inability to earn a livelihood made the production of a healthy family an impossibility He said that the state might withhold a certificate of health in cases of persons suffering from venereal diseases tuberculosis mental deficiency or genuine poverty Young men married when quite unable to keep a wife, with the result that children when born were underfed neglected, and finally thrown on to the public funds The state, he suggested, might insist on each individual's taking out a policy of insurance, and, if the medical examination proved unsatisfactory, the certificate could be withheld and marriage postponed Sir John Bland-Sutton described this paper as an indictment of modern matrimony worthy of the prophet Hosea Eugenics, it appeared, was going to arrange an entirely new kind of marriage Sir W Arbuthnot Lane said that it would take many years to get public acceptation for the suggestions made The press was doing much to bring favor for such proposals and it was a healthy sign that these subjects were now openly discussed

### The Causes of Mountain Sickness

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### Explosion in an Operating Theater

A remarkable accident occurred in the operating theater of the Cheltenham General Hospital, in which the house surgeon and a patient received severe burns The anesthetic had been successfully administered, when a spark from some electrical apparatus exploded a bottle of ether with great force The ether burst into flames, which set fire to the house surgeon's trousers and severely burned his legs and hands The patient was severely burned about the head The other physicians escaped injury, but the nursing sister had her hair badly singed The theater was set on fire, but the flames were put out by an extinguisher

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### Sun Baths for School Children

Successful experiments have been made at Bournemouth in the improvement of the health of delicate and other children attending the elementary schools by means of sun baths on the beach or in the garden and sea bathing in the sun In his report, the school medical officer, Dr W T V Styles, states that pretuberculous children improve in the summer months, but when the hours of sunshine diminish their condition is not so satisfactory "The human race," he says, "tends to return to the primitive state in winter, and, like animals which hibernate or go to earth, mankind tends to take to his home and keep warm In these modern days, when warm woolen clothing can be obtained at moderate prices and children can be warmly clad, it is not necessary for them to keep within doors Every hour of sunshine in the winter must be made use of During the summer I made some very interesting observations which were suggested by work being carried on in Switzerland I advised the parents of delicate children that they should gradually tan the body of the child by the sun from head to foot This was done on the beach by the bathing suit being the only form of apparel, or often in the garden at home The children improved remarkably" Dr Styles then applied the experiments to all children by impressing on mothers the importance of exposing the bodies of their children to the sun gradually He finds that the child who tans well is the healthier child, and that some of the rays of the sun have a most beneficial effect At Bournemouth it is now impressed on all children to keep at the sunny side of the road and never to walk on the shady side Dr Styles also finds that there is a value in sea bathing in the direct rays of the sun. Though the scientific explanation is yet wanting, he has little doubt that the value is directly associated with the action of the sun's rays on the body through the salt water medium He believes that the value of sea bathing in the sunshine far surpasses fresh-water bathing

## PARIS

*(From Our Regular Correspondent)*

May 2, 1924

### Tuberculosis in Miners

Dr L Croizier, physician to the hospital of Saint-Etienne, which is the center of a rich coal region, presented recently to the Societe des sciences medicales of that city a communication on tuberculosis in miners

#### MORBIDITY AND MORTALITY

It appears that miners not only pay a heavy tribute to tuberculosis, but that more deaths from tuberculosis occur among miners proportionately than among the remainder of the population The establishment of a special service for pulmonary tuberculosis in the Bellevue Hospital has made it possible, for the last four years, to make statistical researches along this line The large number of physical examinations that have been made in this service furnished a fine opportunity to study the peculiar types of tuberculosis in miners, particularly the influence of anthracosis on the development of the disease

The first thing that strikes one on entering the tuberculosis service is the exceptionally large number of miners in evidence They constitute usually 50 per cent of the total number of patients, and while at times the percentage falls below 50, it never goes below 30 There is certainly no other trade or occupation that furnishes so many tuberculous patients to the hospital The question may be raised whether the large number of miners in the tuberculosis wards is not due to the fact that they constitute a majority of the population which forms the clientele of the hospital As to that, Croizier replies that the last two enumerations give approximately 10,000 as the number of workmen in the mines From this number, it would be proper to deduct those who work above ground, so as to consider separately those working below ground Whether this deduction is made or not, the 10,000 workmen are far from constituting a majority of the total population It may be more truthfully said that a larger percentage of miners enter the hospital than of any other class of workmen, owing to social conditions their insanitary dwellings, their families (often large), huddled together in two or three small rooms, and, finally, their financial condition, which compels them to seek public aid as soon as the disease deprives them of the head of the family But, if this finding is correct, one should discover in the medical wards the same percentage of miners that is

found in the tuberculosis service, for they doubtless go to the hospital just as readily for rheumatism, pneumonia or typhoid fever as they do for tuberculosis With this idea in view, Croizier prepared a statistical table, covering an entire year of hospital experience and showing the percentage of miners treated in the general medical wards He found that only 21 per cent of these patients were miners, and of this number, many were in a condition entitling them to be classed as tuberculous They had remained in the service to which they were first admitted because bacteriologic verification was lacking, either having been omitted, or owing to the fact that a single examination was negative, as frequently happens in fibroid tuberculosis, and sometimes during the development of other forms

It may be said that these are only the statistics of one hospital and do not reflect the exact situation, there are possibly many factory employees, small merchants and others who contract tuberculosis, and who prefer home treatment without ever being seen in a hospital For this reason, Croizier carried his inquiry further For the three years covered by his statistics—1920, 1921 and 1922—the deaths from tuberculosis among the entire population, miners excepted, amounted to 10 5, 11 5 and 14 per cent, respectively, whereas among miners the percentages of deaths from tuberculosis for these years were 20 3, 31 and 34, or almost twice as large as among the remainder of the population

ETIOLOGY

What are the causes for the severity and high incidence of pulmonary tuberculosis in miners? Naturally, one is inclined to think that the inhalation of coal dust is an important influence, indeed, on the basis of a large number of necropsies, Croizier considers that coal dust is not a negligible factor For example, he says, take ten miners who have spent the same length of time in mines, performing the same work and all of whom succumb to tuberculosis, and one will find that at least eight of the ten present the clinical and anatomic picture of an ordinary acute caseous tuberculosis, and the histologic examination will not reveal in these eight any more anthracosis than in any other person Two out of the ten patients, however, will present a marked black discoloration about the tuberculous lesions These patients, during their illness, doubtless had the well known dark colored purulent sputum A relation certainly exists between the anthracosis and the lesions, for it is always at the site of the lesions that the anthracosis exists or is most marked It is rather exceptional to find any considerable collections of coal dust in the parts of the lungs not involved by tuberculosis, on the other hand, it is frequent to find these collections in the diseased portions of the lungs, where they may or may not be the site of an advanced ulcerative process In most cases, anthracosis establishes about the cavities a more resistant tissue which limits the caseation by stimulating the production of fibrous tissue, in which even the microscope reveals no trace of normal lung structure These facts lead one to conclude that the evolution of fibroid tuberculosis, very likely, is largely brought about by the anthracosis Patients who do not have these collections of coal dust have the ordinary caseous tuberculosis, those who have such collections are more likely to develop fibroid tuberculosis, the coal dust furnishing, it seems, the elements that promote such organization

Another factor contributing to the spread of tuberculosis among miners is the presence of numerous infected persons in a confined imperfectly ventilated area

### League of Red Cross Societies

The general council of the league of Red Cross societies opened its session, April 28, in the mansion placed at its disposal by the Union des femmes de France The representatives of fifty-one national Red Cross societies were present The officers in charge were president, Judge John Barton Payne, former member of the Wilson cabinet, president of the council of directors of the Red Cross and also president of the American Red Cross Society, vice presidents, M Hebrard de Villeneuve, the French delegate, Mr de Souza-Dantas, Brazilian minister, Mr Sugimura, Japanese delegate, and Miss Masaryk, daughter of the president of Czechoslovakia After an opening address by Mr Payne, the Japanese delegate tendered the thanks of the Japanese Red Cross to the various Red Cross societies for the services rendered after the earthquake The Chilean delegate, Mr Quezada, also expressed the gratitude of Chili for the aid received from the Red Cross societies following the recent earthquake in that country The delegates from Argentina, Colombia, Ecuador and Peru also delivered addresses

The agenda of this session of the council concerned primarily the subject of the organization of the league, the proposals relative to revising the constitution, and relations with other international societies The eventual merger of the international committee of Red Cross societies of Geneva and the league of the Red Cross societies was discussed After an exchange of views between Mr Payne and M Gustave Ador, president of the international committee of the Red Cross of Geneva, it was decided that the negotiations should continue between the committee of Geneva and the investigating committee of the league Once an agreement has been reached, a general assembly in which both societies will be represented will be held at Geneva But, as the investigating committee needs considerable time to go over the questions involved in a merger, it was decided that the constitution of the league should not be modified before Dec 31 1925 The investigating committee will use the time that intervenes to hold a referendum among the fifty-one societies represented on the general council

The council was received at the Hotel de Ville by the representatives of the government of Paris The first to greet them was M Georges Lalou, president of the municipal council, who referred in his welcoming words to the "marvelous development from the humble seed sown in Genevan soil by the great philanthropist Henri Dunant, shortly after the battle of Solferino (June 24, 1859)" M Juillard, prefect of the department of the Seine, assured the guests that Paris appreciated most highly the work of the council which carried on such a wonderful altruistic movement during the war Mr Payne thanked the city of Paris, and the guests of the municipality recorded in the book with the golden seal the minutes of the visit

### The Gift of a Million Dollars to the University of Paris

A gift of a million dollars has been made to the University of Paris for the erection, in the so-called University City, of a house primarily for Belgian students, and secondarily for students of Limburg and Luxemburg This gift will bear the name of the "donation Biermans-Lapotre," from the names of the donors, Mr Biermans and Mrs Biermans (nee Lapotre), who are of Dutch and Belgian origin, respectively They are, however, residents of Canada, in which country their fortune was made

### Congress of French-Speaking Pediatricians

The Association française de pediatrie is organizing a congress to be held in Paris, Sept 29 to Oct 1, 1924, under the chairmanship of Professor Marfan The topics on the program are (1) The Etiology and Pathogenesis of Rickets, by Dr Lesne of Paris, (2) The Prophylaxis and Treatment of Syphilis in Children, by Dr L Tixier of Paris, and (3) Treatment of Purulent Pleurisy in Children, by Dr Ribadeau-Dumas of Paris and Dr Rocher of Bordeaux

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## PARIS

*(From Our Regular Correspondent)*

May 2, 1924

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2 The alteration of the oxygen-carrying capacity of the blood is a sudden manifestation noted during the first hours of shock Moreover, it is definite and final, in that the change is not progressive from the beginning of shock until the termination of life, as one might expect

3 The obstruction to aeration in the lungs is temporary, lasting during the period of anesthesia The diminution in the amount of oxygen absorbed lasts only so long as a certain amount of the anesthetic remains in the blood As soon as this substance is eliminated, the function seems reestablished in its integrity and the amount of oxygen absorbed again becomes normal

4 By transfusion or injection of a certain definite volume of blood, it seems to be demonstrated not only that the blood of an animal in shock becomes incapable of effecting aeration but that, furthermore, the properties of new hemoglobin might be affected

5 On the other hand, no alteration results from the injection of blood serum or plasma It seems probable, therefore, that the alteration is brought about through changes in the blood cells or the hemoglobin

### Death of Dr Charles Jacobs

The death of Dr Charles Jacobs, who had been ill for many months, is announced He was one of the best known operators in the field of gynecology In fact, it may be said that Jacobs was the founder of operative gynecology in Belgium He was also a precursor in radium therapy, his works on this subject dating back to 1911

He founded, in 1889, the Belgian Society of Gynecology and Obstetrics, of which he was successively treasurer, general secretary, vice president and president In 1896, the high esteem in which he was held by his confreres caused him to be appointed honorary president of this circle, of which, up to the last few years, he was the quickening spirit He was the founder also of the international congress of gynecology and obstetrics He organized the first meeting of this society in Brussels in 1892, and he had the pleasure of witnessing the increasing success of these international congresses, in which the most eminent gynecologists of the world collaborated

### Brown Bread Versus White Bread

With the fall of the franc, a question much discussed during the war has again come up Shall we eat brown or white bread? Dr Van Nypelseer has made an ardent plea in the *Bruxelles medical* to reduce the consumption of white bread He says that its use as food is not based on observed facts, and that it is in opposition to biologic principles Neither the Academy of Medicine nor physiologists recommend bread made from highly bolted flour Grain merchants and stock raisers oppose it The increase in the consumption of white bread in western Europe is due to selfish interests, ignorance and blindness It constitutes a grave social danger Bread should be made from good wheat flour, ground between millstones, and bolted so as to retain from 85 to 87 per cent of the grain The removal from flour of essential parts of grain induces tuberculosis, rickets and nervous and mental debility

### Radio Talks on Hygiene

I have frequently referred to the methods which the Red Cross, under the leadership of Dr Depage, has used to teach hygiene to the public Its latest method is wireless telephony It is estimated that more than 30,000 persons listened in when talks on hygiene were given along with musical numbers on a recent radio program

General Wilmaers, of the army medical corps, outlined the work of the Red Cross Dr Rene Sand, general secretary of the International League of Red Cross Societies, talked on hygiene in relation to happiness and pointed out how young and old could avoid disease by living more sensibly He tabued late dinners and indigestible foods, leading a sedentary life, and advised keeping the windows open, and drinking and smoking more moderately

Dr Gengou discussed the subject of a child's inherent right to health Inculcating respect for paternal authority, he said, does not allow parents to forget their duties to children Parents must guard the health of their children While the society for the protection of children has reduced the infant mortality rate, it ought to be made possible in every instance for the mother to remain near her child instead of returning a few days after labor to the factory These radio talks seem to be very popular

## BUDAPEST

*(From Our Regular Correspondent)*

April 25, 1924

### Criticism of the Younger Practitioners

The chief medical officer of Budapest, Dr John Vegh, has just published statistics on the public health of Budapest in the latter half of 1923, which in general was better than in the first half of the year The number of acute infectious diseases has decreased from 7,875 in the first half to 3,816 in the latter half of the year On the other hand, tuberculosis claimed many lives, in 1923 the unprecedented number of 3,503 Dr Vegh's report gives a deplorable picture of the housing conditions in Budapest The majority of workmen live in overcrowded houses, infested with vermin, two and three people occupy one bed, and the natural consequence is illness, misery and depravity

In this report, the chief medical officer sharply criticizes the younger generation of practitioners He tries to prove with statistics that they were the cause of the spread of infectious disease In his opinion, many young physicians, through lack of practice, have not recognized the infectious diseases According to the official data, 156 patients with scarlet fever have been admitted to the St John Hospital with a wrong diagnosis, and in another hospital, ten cases These patients were treated before admission to the hospital as mild, noninfectious cases, and were sent in with all kinds of diagnoses except the right one Many children have been treated for sore throat who later, after having spread infection among their comrades in school in large numbers, were found to have scarlet fever

In the obstetric ward of a large municipal hospital there was a patient with an eruption which the young physician regarded as varicella After several days the diagnosis of smallpox was made, but by this time seventeen women in childbed had contracted the disease, and the majority of the infants perished The report enumerates similar cases, and states that if the physicians do not learn to diagnose the infectious diseases in the university, they are of no assistance to the magistrates, and are a menace to public sanitation The diagnostics of infectious diseases cannot be learned from books or from lectures, but must be learned at the bedside The student has to see many cases in the clinical wards, for which they had ample time and occasion had they visited the wards Dr Vegh concludes his report with the hope that these statistics will awaken the youth to the great task which they undertook in selecting as a career the medical profession and that they will bring a blessing to mankind and not disaster

### The Brain of a Prodigy

A violinist, 14 years of age, lost his life recently in an automobile accident The boy, John Nagy, was an extraordinary pupil of the Budapest Musical Academy According

to his masters he surpassed not only his comrades, but also artists When 12 years of age, he did not find the pieces of Paganini difficult In fact, he edited Paganini's pieces so that others could not play them Important musical experts said that Paganini's caprice is perfect only as he played it He had a manner of expression in playing which was his own conception and he had an extraordinary talent for improvisation But it was not only in music that he was a genius He had extraordinary talent for languages, having learned English in two months, so that he could speak with perfect accent and pronunciation, according to the English who reside in Budapest He spoke Dutch, and, though not a Jew, he learned the Hebrew language simply for pleasure

This boy, in crossing a road in Budapest with his father, was knocked down by an automobile, and died in two hours The inquest showed that death was due to rupture of the bronchus and of the esophagus, and to injuries to the intestine The circumference of the skull was 50 5 cm, its longitudinal diameter 17 5 cm, its transverse diameter 14 5 cm, and the thickness of the bone, from 3 5 to 4 5 mm The weight of the brain with the membranes and blood vessels was 1,445 gm, the membranes and the vessels separately weighed 53 gm, so that the net weight of the brain was 1,392 gm The cerebellum, the pons and the medulla oblongata were separated, the large brain was halved, and the parts were measured singly The right lobe weighed 612 gm, the left, 603, the cerebellum, 182 5, total, 1,377 5 The missing 10 5 gm was the weight of the membranes torn down from the median surface of the brain Thus, the weight of the brain, in view of the height and weight of the deceased, was well above normal

In external appearance, the left lobe had strongly developed gyri and furrows, which were peculiar The temporal and parietal lobes were striking Particularly was this true of the gyrus temporalis superior, which for the most part was very wide The brain has been preserved and placed in the pathologico-anatomic institute of the university

### Disease—A Luxury

The medical profession in Budapest is full of bitter complaints It is obliged to raise fees to meet continuously more difficult living conditions, and the greater part of the community is unable to bear them Therefore, extreme economy is practiced to the detriment of public health and the medical profession University professors feel the shortage of patients, but the majority of practitioners are struggling for bread A medical visit to a patient's house costs 100,000 kronen, but often this sum has to be reduced, as the patient is utterly unable to pay so much While the community was not very liberal with physicians in normal times, now it economizes The raising of the price of street car tickets always means the loss of some patients living at a distance from the physician's office And the question is asked, Why consult a physician, when the medicine he prescribes costs more than the patient can pay? The consequence is that physicians are trying to find other occupations Some have resigned after twenty-five years' practice to become bookkeepers or clerks Dental practitioners also have taken down their name plates The other day a physician took a receipt to the editor of a medical journal, showing him that the ministry of public welfare awarded him 4,300 kronen, at present less than the price of two street car tickets, for having attended, in 1923, through three quarters of the year, the families of three ministerial officials He took the receipt to the magistrate to prove his identity, and afterward went to the treasury, spending a forenoon getting the money, meanwhile spending twice the amount for transportation

This state of affairs causes great distress, and as the public suffers the same difficulties in getting a living, raising the fees does not improve the condition They are trying to influence the state to come to their assistance until the economic conditions become stable

## BERLIN

*(From Our Regular Correspondent)*

May 4, 1924

### Height and Weight of School Children

Professor Martin, director of the Anthropologic Institute in Munich, reported recently at a meeting of the Gesellschaft fur Anthropologie, Ethnologie und Urgeschichte the results of examinations of school children with respect to height and weight About 8,000 children of Munich, ranging from 6 to 14 years of age, have been examined The present generation of children was found inferior to earlier generations, the reason assigned being war and postwar influences From comparisons with the results of similar examinations of school children in America, it is plain to be seen that German children are considerably below American children in height and body weight Of 16,203 pupils of the primary and grammar schools of Berlin, measured in 1923, the boys had an average height of 128 2 cm at the age of 9½ The average height of 24,087 pupils of forty-five municipal secondary schools was 3 9 cm more, or 132 1 cm The 14-year-old boys of the grammar school were 18 9 cm taller than the boys aged 9½ The 14-year-old boys in the schools of higher learning were, however, 2 5 cm taller than the grammar school boys The height of the girls, aged 9½, in both schools was under that of the boys, their height in the grammar schools being only 126 6 cm, and in the higher institutions, 131 1 cm The difference in height for the girls in the two kinds of schools (4 5 cm) was greater than for the boys The 14-year-old girls of the grammar school, if it is permissible to compare the figures for the same year, were 21 9 cm taller than the girls aged 9½, the 14-year-old girls in the schools of higher learning were 22 cm taller than the girls aged 9½ in the same schools Therefore, in contradistinction to the boys, the growth of the girls was about the same in the two kinds of schools The weight of the children could be expected to correspond to the varying height The boys, aged 9½, in the grammar schools weighed 26 1 kg, in the schools of higher learning, 28 kg, or 1 9 kg more At the age of 14, the weights for the boys in the two schools were, respectively, 37 7 and 41 9 kg, an excess of 4 2 kg for the boys in the schools of higher learning In the three and one-half years, the pupils of the grammar schools had increased 11 6 kg, and those in the classical schools, 13 9 kg In three and one-half years, the girls, however, in the grammar schools had increased 15 5 kg and, in the classical schools, 14 8 kg The girls in the schools of higher learning had thus gained 0 7 kg less in weight than the pupils of the grammar schools

### Vital Statistics for Bavaria

According to an incomplete report of the Bavarian Statistical Bureau, the records of marriages and births for the first three quarters of 1923 and for the corresponding quarters of 1922 and of 1913 were as follows

*Vital Statistics*

| | Marriages | | | Births (Including Stillbirths) | | |
|---|---|---|---|---|---|---|
| Year | 1923 | 1922 | 1913 | 1923 | 1922 | 1913 |
| First quarter | 14 363 | 15 448 | 10,708 | 48,111 | 50,402 | 52 427 |
| Second quarter | 17,180 | 20,240 | 14,719 | 46 869 | 48 [illegible] | [illegible] |
| Third quarter | 13 911 | 16,476 | 10,718 | 42,256 | 45,179 | 52,615 |

In 1923, as is noticeable also in 1922 and in 1913, the marriages reached as usual their highest level in the second quarter, and dropped down in the third quarter As a whole, the showing for 1923 is much lower than in 1922, so that the excess of 1923 over 1913 is no longer so great as was noted during the first years after the war

On the other hand, the lowering of the birth rate in 1923 marks a further decrease, as compared with the prewar years As early as 1922, the decrease in the birth rate for the third quarter, as against the second quarter, was in marked contrast to 1913, in which year there was, as usual, an increase in the third quarter over the second quarter, and in 1923 the decrease for the third quarter was even greater than in 1922 This fact is no doubt due to financial depression, for the number of marriages contracted during the previous quarters which would affect the birth rate for the first three quarters of 1922 and of 1923, respectively, was virtually the same in each instance, while the number of marriages entered into during the quarters affecting the birth rate for 1913 was considerably smaller than for 1922 and 1923 To illustrate Corresponding to the 42 245 births for the third quarter of 1923, there were 19,119 marriages entered into in the fourth quarter of 1922, and as affecting the 45,178 births of the third quarter of 1922, there were 19,219 marriages contracted in the fourth quarter of 1921, while the 52,615 births of the third quarter of 1913 were influenced by the 13,148 marriages in the fourth quarter of 1912 Thus, it appears that, for the third quarter, for each marriage contracted nine months previously, there were, in 1913, 4 0 births, in 1922, 2 4 births, and in 1923 only 2 2 births

The general mortality and the infant mortality for the years 1922, 1923 and 1913 are as follows

*Vital Statistics*

| | General Mortality (Including Stillbirths | | | Mortality of Infants Under 1 Year Old | | |
|---|---|---|---|---|---|---|
| Year | 1923 | 1922 | 1913 | 1923 | 1922 | 1913 |
| First quarter | 33,582 | 34 100 | 34 209 | 7,711 | 8 165 | 9 098 |
| Second quarter | 29,568 | 30 317 | 33 259 | 7 051 | 7 974 | 9 676 |
| Third quarter | 26,411 | 25 271 | 29 548 | 6 740 | 6 543 | 9 382 |

The general mortality rate is greatly affected by the peculiar conditions determining infant mortality The decrease in the general mortality rate, as compared with the prewar period, can be explained partly by the decrease in the birth rate and partly by the transformation in infant mortality observable since 1921, for the peak of infant mortality is no longer reached in midsummer as formerly, but the two highest points of the curve now fall in the transitional periods —from spring to summer and from summer to winter Other favoring causes are the fact that in some instances mothers who would not ordinarily nurse their infants are compelled for financial reasons to do so In other cases, when the mother is unable to nurse her infant wholly or even in part, better food as a substitute is now being procured Public and private welfare work also have reduced the fatalities from gastric and intestinal affections However, the inadequate protection of infants against colds and infections during cold weather has caused an increased mortality for the winter months

As for the increase in infant and also general mortality in the third quarter of 1923, as compared with 1922, the cause is essentially the same as for the decrease in the birth rate —the prevailing economic distress The main influences are deterioration in the food supply, which contributed to the recent increase in tuberculosis mortality, a necessary falling off in the activities of welfare societies, and the bad housing situation No untoward influence can be ascribed to the weather, for the summer of 1923 was cooler than that of 1922

As a result of the low birth rate and the occasional increases in the death rate during the first three quarters of 1923, the excess of births over deaths was much less than in 1922 and 1913

*Excess of Births Over Deaths*

| Year | 1923 | 1922 | 1913 |
|---|---|---|---|
| First quarter | 14 529 | 16,202 | 18,218 |
| Second quarter | 17 201 | 15 0 8 | 19 0 6 |
| Third quarter | 15 845 | 19 901 | 23,070 |

## Marriages

HARRY G MELLON, Pittsfield, Mass, to Mrs Elinor Martha Safford of Greenwich, N Y, at New York, February 28

WILLIAM LAWRENCE GATEWOOD, New York, to Miss Virginia Conway DeJarnette of Richmond, Va, April 12

HUMIE Z L HORTON, Apex, N C, to Miss Lucille Audrey Barnes of Richmond, Va, April 17

FELIX ANTHONY BLANCHARD to Miss May Gilchrist Tatum, both of McColl, S C, recently

JOHN B RENSHAW, Los Angeles, to Mrs Hattie Bell Ellis of Glendale, Calif, March 1

FRANK LEE CATO, JR, to DR CORINNE MARIE ROQUET, both of New Orleans, March 1

HARRY W DAHL to Miss Helen Anderson, both of Des Moines, Iowa, March 25

HARRY R CARSON, Knoxville, Iowa, to Miss Lillian Walker of Linden, March 27

## Deaths

**Uriah Kinder Essington** ⊕ Columbus, Ohio, Starling Medical College, Columbus, 1896, served in the M C, U S Army, during the World War, on the staffs of the Columbus Radium, McKinley and White Cross hospitals, aged 55, died, May 6, at the Augustana Hospital, Chicago, following an operation for strangulated hernia

**William Alexander Shannon** ⊕ Seattle, Trinity Medical College, Toronto, Ont, Canada, 1887, past president of the King County Medical Society, member of the board of education, on the staffs of the Providence Hospital and the Columbus Sanitarium, where he died, May 6, of acute endocarditis, aged 66

**Daniel LaFerte** ⊕ Detroit, Jefferson Medical College of Philadelphia, 1871, professor of orthopedic surgery at the Detroit College of Medicine and Surgery, member of the Detroit Surgical Society, formerly on the staffs of the Harper and the Children's Free hospitals, aged 75, died, May 18

**Winslow Burrell French,** Rockland, Mass, Boston University School of Medicine, 1891, formerly demonstrator of anatomy and instructor of gynecology at his alma mater, at one time on the staffs of the Emerson, and Massachusetts Homeopathic hospitals, Boston, aged 54, died, May 11

**Albert Euclid Hinsdale,** Cleveland, University of Michigan Homeopathic Medical School, Ann Arbor, 1906, formerly professor of materia medica at the Ohio State University College of Homeopathic Medicine, Columbus, aged 43, died, May 8, of pneumonia

**Thomas Joseph O'Neill,** Anderson, Ind, Medical College of Indiana, Indianapolis, 1904, member of the Indiana State Medical Association, served in the M C, U S Army, during the World War, aged 42, died, May 13, at St Joseph's Hospital, of pneumonia

**John Marshall Alexander,** Fulton, Ky, Bellevue Hospital Medical College, New York, 1891, member of the Kentucky State Medical Association, served in the M C, U S Army during the World War, aged 57, died, May 13, of cerebral hemorrhage

**Edmund Morton Walker,** Toronto, Ont, Canada, University of Toronto Faculty of Medicine, 1903, associate professor of biology at his alma mater, president of the Bank of Commerce, aged 75, died, March 27, of pneumonia

**Frederick Thomas Miles** ⊕ Salem, Ohio, Western Reserve University School of Medicine, Cleveland, 1892, served in the M C, U S Army, during the World War, aged 55, died suddenly, May 13, of cerebral hemorrhage

**Leon Jacobs** ⊕ Yuma, Ariz, Rush Medical College Chicago, 1903, physician to the Fort Yuma Indian School, served in the M C, U S Army, during the World War, aged 46, died, May 4, of injuries received in an accident

**John Ernest Laul,** Elmhurst N Y, New York Homeopathic Medical College and Flower Hospital, New York 1918, served in the M C, U S Army, during the World War, aged 29, died, May 13, of septicemia

**Samuel Backus Lyon,** White Plains N Y, George Washington University Medical School, Washington D C 1879,

for more than twenty years superintendent of the Bloomingdale Hospital, aged 82, died, May 12

**Albert Alonzo Sargent** ⊕ Philadelphia, Jefferson Medical College of Philadelphia, 1893, formerly assistant demonstrator of histology and embryology at his alma mater, aged 51, died, May 11, following a long illness

**James H Wroth,** Jemez Springs, N M, University of Pennsylvania School of Medicine, Philadelphia, 1878, member of the New Mexico Medical Society, president of the board of education, aged 69, died, May 6

**Maude Kent,** Battle Creek, Mich, Boston (Mass) University School of Medicine, 1886, associate editor of *Good Health* aged 59, died, May 8, at the Battle Creek Sanitarium, of cerebral hemorrhage

**Charles Benjamin Stevens** ⊕ Worcester, Mass, Medical School of Harvard University, Boston, 1894, formerly on the staffs of the Worcester Isolation, and City hospitals, aged 59, died suddenly, May 14

**Joseph Tkadlec,** Cazenovia, Wis, German Medical College, Chicago, 1897, member of the State Medical Society of Wisconsin, aged 56, died suddenly, May 9, at Reedsburg, of heart disease

**David S Olmstead** ⊕ Millersburg, Ohio, University of Wooster Medical Department, Cleveland, 1880, aged 67, died, April 26, at the Lakeside Hospital, Cleveland, of carcinoma of the cecum

**Edgar Randolph Osterhout,** Ithaca, N Y, Bellevue Hospital Medical College, New York, 1884, member of the Medical Society of the State of New York, aged 66, died, March 14

**Joseph Reese,** Chicago, Medical College of Ohio, Cincinnati, 1884, member of the Illinois State Medical Society, aged 63, died, May 19, of injuries received in an automobile accident

**Oscar Barre Simpson,** Prosperity, S C, Medical College of the State of South Carolina, Charleston, 1910, member of the South Carolina Medical Association, aged 41, died, May 7

**William Henry Amerson** ⊕ Chicago, Chicago Homeopathic Medical College, 1890, University of Illinois College of Medicine, Chicago, 1901, aged 55, died, May 20, of pneumonia

**George McClellan Billmeyer,** Zion, Ill, Rush Medical College, Chicago, 1897, member of the Illinois State Medical Society, aged 61, died, May 15, of cerebral hemorrhage

**Edgar Clarence Levine,** Montreal, Que, Canada, McGill University Faculty of Medicine, Montreal, 1913, on the staff of the Royal Victoria Hospital, aged 47, died, April 16

**Frank Garbutt,** Mechanicsville, N Y, Albany Medical College, New York, 1872, member of the Medical Society of the State of New York, aged 76, died, March 2

**Byron Benjamin Godfrey** ⊕ Holland, Mich, Rush Medical College, Chicago, 1878, health officer of Holland, aged 76, died, May 6, following a long illness

**Thomas Benton Francis,** Palo Alto, Calif, Rush Medical College Chicago, 1879, formerly a practitioner in Minnesota, aged 68, died recently

**George W Judson,** Lyn, Ont, Canada, Queen's University Faculty of Medicine, Kingston, 1879, aged 65, died, April 3, of heart disease

**Thomas W Morgan,** Spartanburg, Ind, Cleveland (Ohio) College of Physicians and Surgeons, 1893, died, May 1, of heart disease

**George Wallace White,** Jersey City, N J, Medical Department of Columbia College, New York, 1894, aged 52, died, April 29

**Charles Harmon Smith,** Petrolia, Ont, Canada, Trinity Medical College, Toronto, 1896, aged 54, died suddenly, April 15

**David L Howerton** ⊕ Hurdland, Mo, Northwestern Medical College, St Joseph, 1892, aged 56, died, May 1, of heart disease

**John H Sterling** ⊕ Brooklyn, Medical Department of the University of the City of New York, 1869, aged 81, died, May 4

**Samuel S Weidner,** Fairbury, Neb, Rush Medical College, Chicago, 1875, aged 75, died, May 1, at Clarinda, Iowa

**Edward John Kieffer** ⊕ Chicago, Rush Medical College, Chicago, 1902, aged 44, died, March 14

**George W Dewey,** Crawfordsville, Ind (licensed, Indiana, 1897), aged 79, died, May 12

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

## SAN-I-SAL

### The Patent Office Again Demonstrates Its Ignorance of Modern Medicine

Large and expensive newspaper advertisements have appeared during the past month or two advising the obese public of "A Guaranteed Way to Take Off Two to Five Pounds in One Bath" The product advertised is "San I Sal, the Pine Hot Springs Bath" It is sold by the San-I Sal Laboratories of Washington, D C The advertising claims are typical of "patent medicine" obesity cures Thus

"San I Sal takes off weight just where reduction is most needed"

"Naturally, this treatment relieves rheumatic pains, breaks up colds and tones up the body"

"Men and women taking these baths lose weight, improve their health, and become greatly rejuvenated"

No tiresome exercise—no starvation diet—no mysterious internal treatment You can now reduce your weight quickly and safely with healthful pine hot springs baths—in your own bath room"

Off comes 2 to 5 pounds in one bath!

*Take the famous Hot Springs baths in your own home*

YOU can now control your weight by taking off from 2 to 5 pounds once a week, improve your health and your figure and have a clearer smoother skin.

The hot springs health baths of the South which have been famous for reducing weight and improving the health. These hot springs are natural saline pools located in pine forests where the pine needles fall and the water holds the natural pine oil and balsam oils

How San-I-Sal takes off 2 to 5 pounds in one bath

Now after years of research, the valuable ingredients of these hot springs have been determined and a concentrated natural bath salt called San-I-Sal is made so that the full strength of a hot bath gives the best effects of the hot springs bath. It is nothing more than blending of these pine forest mineral salts and pure pine balsam oils which relax the pores and stimulate the skin to a clear healthy glow

By opening the pores, San I Sal sweats out excess fatty tissues and body poisons naturally quickly and safely. A delightful feeling of freshness follows. Nerves, muscles will relax, pimples, black heads, colds—in short tone up the whole body

When you take the San-I Sal in your own method of controlling weight, you will understand how it can reduce you from 2 to 5 pounds in one bath—according to the amount of surplus fat you have accumulated. And, best of all, San-I-Sal takes off weight just where reduction is most needed. It gives delightful, fragrant pine hot springs bath with an energizing after-effect.

San I S I cannot possibly harm you—it contains no drugs of any kind. Doctors, nurses, and health resorts now order San-I-Sal in large quantities for their patients. But the most eloquent testimonial of all is that more than half of the San-I-Sal sold every day is by the thousands of packages distributed to amazed users after their first trial treatment.

Enjoy a pure hot springs bath tonight

Walk in to any good druggist. Ask for package of San-I-Sal. If he does not put up an convenient cloth bag weighing about 2 pounds. Put the bag into your hot bath—San-I-Sal dissolves quickly. Then open your real hot spring health bath. The results will surprise you peek at the happiest moments of your life.

THE SAN-I-SAL GUARANTEE

If San-I-Sal does not reduce your weight from 2 to 5 pounds, your druggist will gladly return your money at once and without question. You take no risk whatever.

DEALERS Write for information, prices, etc.

Greatly reduced reproduction of a typical San I Sal newspaper advertisement

The formula and process of making San-I-Sal are covered by the United States Patent No 1465530 issued Aug 21, 1923 The patent specifications covering the patent of this number show that on that date a patent was issued to Herbert Wilbert Smith of Washington, D C The "invention" is said to relate to "a composition of matter for producing a medicated bath of particular value in the treatment of obesity" The composition has the following ingredients in the proportions stated

| | |
|---|---|
| Epsom salt | 90 per cent. |
| Baking soda | 2 per cent. |
| Table salt | 5 per cent. |
| Canada balsam | 2 per cent. |
| Oil of pine needles | 1 per cent |

The specifications then describe how the pine oil is mixed with the baking soda and the Canada balsam first added and, after being allowed to stand for several hours, finally the Epsom salt and table salt They state also that the stuff is

used by adding it to hot bathing water and that "the pine oil operates to open the pores of the skin" while the Epsom salt causes sweating The table salt is added, one learns, to counteract "the tendency of the skin toward looseness which usually occurs from long continued bathing in hot water" The Canada balsam serves the same purpose as the pine oil, but "any coniferous oils or extracts thereof having the general property of Canadian balsam may be substituted."

The specifications also declare that this Epsom salt mixture when used in the bathing water has been found to afford "great relief in cases of inflammatory rheumatism and ailments of a similar character" Furthermore, the mixture may be used "to obtain a velvety, clear complexion" and it 'has also been found very useful and efficacious in the treatment of acne and similar skin troubles"

It should be remembered that the claims just recounted are not taken from a "patent medicine" advertisement, but from specifications issued by the United States Patent Office

In the directions for the use of "San-I-Sal" the hopeful sufferer is told to draw in the bath tub enough water, as hot as can be comfortably borne, to cover the body San-I-Sal is then placed in this water and the patient gets into the tub She (presumably, it is usually "she") stays there for a full half hour, adding hot water to keep the bath as hot as can be borne After the bath the victim goes to bed and sweats for half an hour The leaflet claims that the reducing effects "continue for two or three days after each bath" for "a certain amount of San-I-Sal taken up by the body continues the work of eliminating excess adipose tissue"

That the sweating induced by staying for half an hour in a tub of water as hot as can be borne will reduce the weight of the body to the extent of the sweat excreted is, of course, obvious Equally obvious is the fact that within a very few hours the body will have received enough additional water to make up the loss That a mixture of Epsom salt, baking soda and table salt with a small quantity of Canada balsam and oil of pine needles should be granted a patent by the United States Patent Office as a new and useful invention makes one wonder again just how much intelligence on medical subjects there is displayed by the Patent Office

## Correspondence

### "CEREBRAL ANGIOSPASM"

*To the Editor* —The observation of a patient during a cerebral angiospasm by Dr Finesilver, as reported in THE JOURNAL, May 17, page 1608, is interesting, but is incomplete, and the conclusion, that "the whole picture is that of cerebral angiospasm of the vessels of the right side of the brain" is not justified by the facts stated Is one justified in subscribing to the theory of angiospasm without giving due consideration to the fact that maintenance of the cerebral circulation is dependent on a normal circulating medium at an effective pressure and rate of flow in normal vessels? Why assume that the phenomena observed were caused by a spasm when it was observed that "the heart, while regular before, now showed many extrasystoles, it was feeble, and the rate was 84 a minute"? The systolic pressure before, during and after the attack is not reported

WILLIAM H HOLMES, M D, Chicago

### LIQUID AIR FOR POISON OAK DERMATITIS

*To the Editor* —I have been using liquid air as a curative agent for poison oak dermatitis for some time I find but one reference to the application of liquid air to poison oak dermatitis in the literature in twenty-five years I have in preparation an article for your journal which I will forward in the near future

The curative powers of liquid air in poison oak dermatitis were rediscovered accidentally by a Mr G F Nelson, mechanician in the department of chemistry of the University of California, who was himself suffering from poison oak dermatitis and was at the same time making liquid air Since then he has used it on students and employees of the chemistry department of the University of California with similar remarkable results

Since this has come to my attention, I have used it at the University of California Infirmary and kept a record of between thirty and fifty acute cases of poison oak dermatitis, and can say that the itching is immediately allayed and the process of repair starts within two or three hours from the application of the liquid air Usually only one application is necessary on any new spot of dermatitis The liquid air will not prevent the spread

WILLIAM GOODRICKE DONALD, M D, Berkeley, Calif
Acting University Physician

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted, on request

### SIPPING OR DRINKING MILK

*To the Editor* —Every once in a while we hear and read that milk should be sipped, not drunk like water Even the ads tell the same story The advertisement of one firm states that straws "prevent gulping and thereby aid digestion Hawk and others have shown that milk, when sipped, forms a large curd in the stomach In my lectures, I say that milk should be taken like water Please let us know what's what, and why

A P Sy, Buffalo

ANSWER.—Except in cases of patients with marked impairment of digestion, patients who should take all types of food slowly, the question of sipping milk through a straw or drinking it directly from a glass, like water, is one of esthetics rather than dietetics One can drink milk as slowly without a straw as with a straw Unless there is a considerable quantity of gastric juice in the stomach to begin with, there will be no appreciable curdling of the milk started until all the glass of milk has reached the stomach, even when taken through a straw In any event, the size or the consistency of the precipitated casein is of no practical significance to the individual whose stomach is any kind of a "going concern"

When the infant, human or lower mammal, takes his milk from the teat, this is analogous to sipping milk through a straw But every farmer knows that the calf taken away from its mother and allowed to gulp its pail of milk as fast as he can get it down does practically as well as the calf left with the mother, provided he gets enough good milk It must also be remembered, in these days of straws, that millions of people take their milk without straws and "get away with it" This will probably hold unless extensive advertisement works the straw sipping process into our conditional reflexes

Patients with digestive troubles may take their milk through a straw, if this is the only way to induce them to take it slowly Others may take their milk in any way they like—and plenty of it

### FAT CONTENT OF BLOOD IN FEVER

*To the Editor* —What is the effect of fever on the fat content of the blood?

W R M

ANSWER —The lipoids in twenty-five samples of pathologic blood were determined by Bloor, who found the 'fat' content increased in fifteen and decreased in two None of the diseases represented in this list were febrile, however, and there seems to be no reference to research on the fat in blood from the standpoint of fever alone Bloor's work (The Distribution of the Lipoids ['Fat'] in Human Blood, *J Biol Chem* **25** 577 [July] 1916) is a study of the lipoids in normal blood, and in such conditions as diabetes, nephritis, asthma myocarditis goiter, mitral stenosis, anemia, syphilis and carcinoma.

### KOTTMAN'S TEST FOR HYPERTHYROIDISM — EPSTEIN'S BLOOD SUGAR METHOD — RUBBER GLOVE SOLUTION

*To the Editor* —1 Please describe the technic of Kottman's test for hyperthyroidism, mentioned in THE JOURNAL, April 19, p 1298 2 What is the technic of Epstein's method for estimation of blood sugar? This test is not mentioned in Stitt's work, is it considered sufficiently accurate for everyday use? 3 Please give the name and address of the firm marketing a "rubber glove solution" into which a surgeon may dip his hands as a substitute for wearing gloves I have seen this used in a Montreal hospital, where it was considered quite satisfactory If such an article is not on the market, could you suggest a formula? The one that I saw smelled strongly of banana oil or amyl acetate

H W C, M D, Eldridge, Calif

ANSWER—1 To 1 cc of clear serum from blood drawn before a meal, 0 25 cc of 0 5 per cent potassium iodid is added, and then 0 3 cc of 0 5 per cent silver nitrate, after gentle mixing, the mixture is exposed five minutes to a 500 watt Mazda lamp at a distance of 25 cm, 0 5 cc of 0 25 per cent solution of hydroquinone is added, and the color changes are noted A dark room is not absolutely necessary A room with diffused light will not interfere with accurate results The serum must be fresh and free from hemoglobin, and the reagents must be freshly prepared and accurately measured The color reaction, after the addition of the hydroquinone, varies with different specimens Saunders found that in normal specimens the color changed in about five minutes, in a case of hyperthyroidism, the color persisted for a considerable time, while in a case of hypothyroidism the color changed very rapidly The reagents and specimens should be kept at ordinary room temperature for at least twenty minutes, to insure uniformity before the test is performed

2 Details of the technic of Epstein's method for the estimation of blood sugar were published in THE JOURNAL, Nov 7, 1914, p 1667, in an article by the author If one is unable to consult the original article, a copy will be made on request at 50 cents a column of JOURNAL type

3 There is no rubber glove solution on the market that can be substituted for rubber gloves for surgical operations

### STAINING SOLUTION FOR LABORATORY TABLES

*To the Editor* —We are interested in the formula of copper sulphate solution used in staining laboratory tables, which finally gives a dull black finish If I remember rightly, about twelve or fourteen years ago THE JOURNAL published some data A S WOLF, New York

ANSWER—As considerable time has elapsed since the publication of the formula for an ebonizing preparation to render laboratory tables resistant to staining or corroding chemical reagents, it is here repeated

| | |
|---|---|
| Solution A | |
| Copper sulphate and potassium chlorate, each | 125 gm |
| Water | 1,000 gm |
| Boil till salts are dissolved | |
| Solution B | |
| Anilin hydrochlorid | 150 gm |
| Water | 1,000 gm |
| or | |
| Anilin | 120 gm |
| Hydrochloric acid | 180 gm |
| Water | 1,000 gm |

Two coats of Solution A are applied while hot, the second as soon as the first has dried Two coats of Solution B are applied, and the wood is allowed to dry thoroughly Next a coat of raw linseed oil is rubbed in by means of a cloth to give a polish In the treatment with the oil, the deep black color is partially brought out, but this does not uniformly appear until the table has been thoroughly washed with hot soapsuds The latter treatment removes superfluous chemicals To keep the table in condition, it is said to be necessary only to wash off occasionally with soap and water and then to rub with boiled linseed oil The quantities given are sufficient for ten square yards of surface

### REGISTRATION AREA

*To the Editor* —Kindly give me some information about the "Registration Area," or refer me to where I can find out From the enclosed clipping (from the New York *Times*) it appears that Chicago and St Louis are not in the "area," which seems incredible

F T WRIGHT, M D, Douglas, Ariz

ANSWER—The Bureau of Census, Washington, D C, advises that a state is admitted to the birth or the death registration area when it has a satisfactory birth or death registration law, and tests by the United States Bureau of the Census show that at least 90 per cent of all births and deaths are registered

A city may be admitted to the death registration area independent of the state in which the city is located, but not to the birth registration area, the sole unit of the birth registration area is the state

Illinois, including Chicago, is in both the birth and the death registration area Missouri is in the death registration, and St Louis likewise Missouri is not in the birth registration area, but is under observation with a view to admission The Missouri birth registration law is satisfactory, but it has not been in force long enough to bring actual registration up to the required 90 per cent Since Missouri is not in the birth registration area, St Louis is not and cannot be, no matter how satisfactory the enforcement of the birth registration law is within the city

### EFFECT OF QUININ ON THE EAR

*To the Editor* —I was given 60 grains of quinin sulphate in the course of twelve hours by mouth by a neighboring physician about ten days ago, when I had pneumonia I lost my hearing completely, but it has since come back almost entirely, although I am troubled with a roaring, or sense of fulness, in my ears I have noticed in Forchheimer's Therapeusis, in an article by Henry L Elsner, that large doses are used, but nothing is said about how to relieve a condition such as has resulted in my case If you know of anything that will be of aid to me, I will certainly appreciate the information If there is nothing to do, do you think that the condition will clear up with time?

B W KENDALL, M D, Lillybrook, W Va

ANSWER—It is well known that certain drugs, especially quinin, are prone to affect the auditory nerve, which is one of the most vulnerable of the cranial nerves In some cases, even 0 06 or 0 12 gm (1 or 2 grains) of quinin have been known to produce intense tinnitus aurium At times, marked impairment of hearing has occurred, and, while this is usually transient, it is possible to have a permanent defect in hearing For this reason, some physicians hesitate to prescribe quinin in any condition Of course, in malaria, in which quinin is a specific, it may be necessary to give the drug, but in most conditions in which antipyretics are indicated, other drugs will answer the purpose without endangering the ears Tinnitus is sometimes permanent In order to relieve the patient, it is customary to produce active elimination by means of saline cathartics and the drinking of much water It is advisable to use bromids, especially the sodium salt, in 0 6 gm (10 grain) doses three or four times a day, with plenty of water Usually this medication will relieve the noises, but, as before stated, some cases are quite intractable

### IS OBSTETRICS MAJOR OR MINOR SURGERY?

*To the Editor* —Please advise me as to whether the handling of confinement cases or obstetrics is major or minor surgery Dorland's medical dictionary defines obstetrics as that branch of surgery which deals with pregnancy and labor, and minor surgery as that type of surgery such as bandaging and application of splints

A J WILLIAMS, M D, Waukesha, Wis

ANSWER—Medical literature, the curriculums of medical colleges, and medical practice acts almost universally recognize obstetrics as a distinct department of medicine Obstetrics deals primarily with normal conditions, surgery deals altogether with abnormal conditions In connection with obstetrics, abnormal conditions may arise, some of which call for surgical intervention, but the possibility of their occurrence hardly brings the entire field of obstetrics within the domain of surgery

Such surgery as is incidental to obstetrics may be either major surgery or minor surgery, according to the circumstances and to established standards Ohio, for instance, has defined major surgery as "the performance of those surgical operations attended by a mortality from the use of the knife or other surgical instruments" Most states, however, have laid down no such definitions Under such circumstances, outside of a considerable number of operations that would fall obviously into one field or the other, the question as to whether a given operation or procedure is to be classed as major surgery or minor surgery is a matter of personal opinion

### "A POSSIBLE SOURCE OF HAND CONTAMINATION"

*To the Editor* —Relative to the letter with this title (THE JOURNAL, May 3, p 1461), such an attachment to fixtures in toilet rooms in continental Europe has been in use, to my personal knowledge, for at least seventeen years It consists of a lever operated by the foot.

CHARLES W HEITZMAN, M D, Muskogee, Okla

# Medical Education, Registration and Hospital Service

## COMING EXAMINATIONS

ALABAMA Montgomery, July 8 Chairman Dr S W Welch, Montgomery

CALIFORNIA San Francisco July 7-10 Sec Dr Charles B Pinkham, 908 Forum Bldg, Sacramento

COLORADO Denver July 1 Sec, Dr David A Strickler, 612 Empire Bldg Denver

CONNECTICUT Hartford July 8 9 Sec, Regular Board, Dr Robert L Rowley, 79 Elm St Hartford

CONNECTICUT New Haven July 8 Sec, Homeopathic Board Dr Edwin C N Hall, 82 Grand Ave New Haven Sec Eclectic Board Dr James E Hair 730 State St New Haven

DELAWARE Wilmington June 17 Sec Medical Council Dr H W Briggs 1026 Jackson St Wilmington

DISTRICT OF COLUMBIA Washington July 8 Sec, Dr Edgar P Copeland Apt 104, Stoneleigh Court Washington

FLORIDA Ocala, June 16 17 Sec, Dr W M Rowlett, Citizens Bank Building Tampa

GEORGIA Atlanta and Augusta June 4-6 Sec, Dr C T Nolan Marietta

ILLINOIS Chicago, June 24 27 Supt of Regis., Mr V C Michels, Springfield

INDIANA Indianapolis July 8 10 Sec Dr William T Gott, No 333 State House Indianapolis

KANSAS Topeka June 17 Sec Dr A S Ross Sabetha.

KENTUCKY Louisville June 9 Sec, Dr A T McCormack, 532 W Main Street Louisville

LOUISIANA New Orleans June 12 14 Sec, Dr Roy B Harrison, 1507 Hibernia Bank Bldg New Orleans.

MARYLAND Baltimore June 17 20 Sec, Reg Bd, Dr Henry M Fitzhugh 1211 Cathedral St Baltimore, Sec., Homeo Bd, Dr E H Wilsey Chesapeake City

MICHIGAN Ann Arbor June 10 12 Detroit June 16 18 Sec., Dr B D Harison, 707 Stroh Bldg Detroit

MINNESOTA Minneapolis, June 3 5 Sec Dr Thomas McDavitt, 535 Lowry Bldg Minneapolis

MISSISSIPPI Jackson, June 17 18 Sec Dr W S Leathers Jackson

NATIONAL BOARD OF MEDICAL EXAMINERS Written examinations in Class A Medical Schools Parts I and II June 19 21 Sec Dr John S Rodman 1310 Medical Arts Bldg Philadelphia

NEBRASKA Omaha June 9 11 Supt Dr J D Case Terminal Building Lincoln

NEW JERSEY Trenton June 17 18 Sec Dr Alexander MacAlister State House, Trenton

NORTH CAROLINA Raleigh June 23 Sec. Dr Kemp P B Bonner Raleigh

NORTH DAKOTA Grand Forks July 1-4 Sec, Dr G M Williamson, Grand Forks

OHIO Columbus June 3 6 1924 Sec Dr. H. M Platter, Hartman Hotel Bldg Columbus

OKLAHOMA Oklahoma City July 8 9 Sec Dr J M Byrum Shawnee

OREGON Portland July 1 3 Sec, Dr Urling C Coe Stevens Bldg, Portland

PENNSYLVANIA Philadelphia and Pittsburgh July 8 12 Sec, Dr George Becht Harrisburg

RHODE ISLAND Providence, July 4 5 Sec Dr B U Richards, State House Providence

SOUTH CAROLINA Columbia June 24 Sec Dr A Earle Boozer, 505 Saluda Ave, Columbia

SOUTH DAKOTA Sioux Falls, July 15 Director Division of Medical Licensure Dr H. R Kenaston Bonesteel

TENNESSEE Memphis June 13 14 Sec, Dr A B DeLoach, 434 Madison Ave Bldg, Memphis

TEXAS Austin June 17 19 Sec, Dr T J Crowe 918 19 Mercantile Bank Building Dallas.

VERMONT Burlington June 25 27 Sec. Dr W Scott Nay, Underhill

VIRGINIA Richmond June 17 20 Sec Dr J W Preston 720 Anchor Building Roanoke

WASHINGTON Olympia July 8 Sec Mr Wm Melville Olympia

WISCONSIN Milwaukee June 24-26 Sec, Dr J M Dodd 220 E Second Street Ashland

WYOMING Casper June 5 11 Sec. Dr J D Shingle, Citizens Bank Bldg Cheyenne

### Missouri January Reciprocity Report

Dr Cortez F Enloe, secretary, Missouri State Board of Health, reports that five candidates were licensed by reciprocity at the meeting held at Jefferson City, Jan 29, 1924 The following colleges were represented

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| Northwestern University | | (1910) | Illinois |
| State University of Iowa College of Medicine | | (1904) | Iowa |
| University of Kansas | | (1922) | Kansas |
| Harvard University | | (1915) | Illinois |
| University of Minnesota | | (1923) | Minnesota |

### Washington January Reciprocity Report

Mr William Melville, secretary, Washington Department of Licenses, reports that forty-two candidates, including one undergraduate, were licensed by reciprocity and two by endorsement of credentials, at the meeting held at Olympia, Jan 8, 1924 The following colleges were represented

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| University of Colorado | | (1913) | S Dakota |
| George Washington University | | (1905) | Dist Colum |
| Bennett College of Eclectic Medicine and Surgery | | (1882) | Idaho |
| (1896) Wisconsin | | | |
| Bennett Medical College | | (1909) | Nebraska |
| American College of Medicine and Surgery | | (1906) | Alaska |
| Chicago College of Medicine and Surgery | | (1914) | S Dakota |
| (1916) (1917) Illinois | | | |
| Hahnemann Medical College and Hospital of Chicago | | (1903) | Wisconsin |
| (1913) Montana | | | |
| Loyola University | | (1919) | Illinois |
| Northwestern University | (1916), | (1923) | Illinois |
| College of Physicians and Surgeons Chicago | | (1910) | S Dakota |
| State University of Iowa College of Medicine | | (1909) | N Dakota |
| State Univ of Iowa College of Homeopathic Med | | (1906) | Iowa |
| Sioux City College of Medicine | | (1902) | Iowa |
| University of Kansas | | (1918) | Kansas |
| Hospital College of Medicine, Louisville | (1905), | (1906) | Oklahoma |
| University of Louisville | (1910) Indiana, | (1913) | Kentucky |
| | | (1921) | N Dakota |
| Johns Hopkins University | | (1921) | Michigan |
| University of Michigan Med School | (1903) Idaho, | (1914) | Minnesota |
| University of Minnesota | (1913), | (1891) | Montana |
| Kansas City Medical College | | (1908) | Illinois |
| St Louis College of Physicians and Surgeons | | (1919) | Wisconsin |
| Columbia University | (1896) Kentucky, | (1891) | Ohio |
| Cleveland Medical College | | (1894) | Ohio |
| Starling Medical College | | (1910) | Ohio |
| Toledo Medical College | | (1915) | Oregon |
| University of Oregon | | (1901) | Oklahoma |
| Memphis Hospital Medical College | | | |
| (1906) Louisiana (1907) Mississippi | | | |
| University of Nashville | | (1907) | Oklahoma |
| University of Toronto | | (1908) | N Dakota |
| Undergraduate | | | W Virginia |

| College | ENDORSEMENT OF CREDENTIALS | Year Grad | Endorsement with |
|---|---|---|---|
| University of Nebraska | | (1921) | N B M Ex |
| University of Pennsylvania | | (1922) | N B M Ex |

# Book Notices

THE ELEMENTS OF VITAL STATISTICS IN THEIR BEARING ON SOCIAL AND PUBLIC HEALTH PROBLEMS By Sir Arthur Newsholme K C B M D F R C P Lecturer on Public Health Administration at the School of Hygiene and Public Health Johns Hopkins University Second edition Cloth Price, $7 50 Pp 623 New York D Appleton & Co., 1924

The recent revision of Sir Arthur Newsholme's book will be a welcome addition to the libraries of all interested in public health It has been entirely rewritten by the author, and a great deal of new matter introduced It is especially valuable for American readers, as data from our country and from England are made use of with equal freedom Though intended, in the first instance, for health officers and those engaged in the work of collecting and compiling vital statistics, the author, even in the first edition, introduced considerable discussion of current statistical problems of interest to many others The present edition has been greatly enlarged, particularly as to this portion of the subject Many matters of interest to medical men are discussed in considerable detail, such as the decrease in tuberculosis, the prevalence of venereal disease, the use of alcoholic beverages, and the apparent increase of cancer and appendicitis The author still believes that the institutional treatment of advanced pulmonary tuberculosis is of great importance in the decrease of this disease, though he seems to have modified his former views as to its supreme importance Though recognizing the part played by poor nutrition in the development of the disease he thinks that this is often overestimated, and gives statistical evidence for this conclusion The influence of overcrowding, too, has perhaps been exaggerated Stress is placed on the partial immunizing effect of repeated small doses of tubercle bacilli in early life Under the careless personal hygiene of a generation ago, large doses of tubercle bacilli killed With less chances for infection today, smaller doses immunize Many years ago Sir Arthur showed that the apparently great increase of cancer is, to a large extent, apparent only He here reviews this evidence and suggests that it may well be that some forms of cancer may be increasing though others are not Appendicitis on the other hand probably shows a real increase In the discussion of these and a great many other practical medical problems, the author reviews the facts in a safe and sane manner, and with entire

fairness, and is constantly calling attention to fallacies and statistical pitfalls It is the careful treatment of these problems in an honest and simple manner that makes this excellent and reliable book so useful for physicians and social workers It would mean much if every writer of popular health literature would keep a copy on his desk and use it Frequent attention is called to the fact that the value of vital statistics depends on the relative accuracy of the original returns The best way to improve vital statistics is to raise the standards of medical knowledge Better statistics, and hence a better foundation for progress, is one of the fruits of the campaign in this country for better medical training Improvement in mortality returns is already apparent

DIE SYPHILIS Kurzes Lehrbuch der gesamten Syphilis, mit besonderer Berucksichtigung der inneren Organe Herausgegeben von E Meirowsky, und Felix Pinkus Cloth Price, $6 50 Pp 572, with 79 illustrations Berlin Julius Springer, 1923

HANDBUCH DER SERODIAGNOSE DER SYPHILIS Von Professor Dr C Bruck, Leiter der dermatolog Abteilung des stadt krankenhauses Altona, Priv Doz Dr E Jacobsthal, Leiter der serolog Abteilg des allgem Krankenhauses Hamburg St Georg, Priv Doz Dr V Kafka Leiter der serologischen Abteilung der psychiatr Univ Klinik u Staatskrankenanstalt Hamburg Friedrichsberg, und Oberarzt Dr J Zeissler, Leiter der serologischen Abteilung des stadt Krankenhauses Altona Herausgegeben von Carl Bruck Second edition Paper Price, $7 20 Pp 546, with 46 illustrations Berlin Julius Springer, 1924

These two books are valuable additions to the literature of syphilis The Meirowsky-Pinkus work, in thorough and competent manner, presents syphilis in all its manifestations in the organs and tissues of the body, and will be read with profit and stimulus by any physician who deals with this disease and attempts to treat it The illustrations are instructive The subject index seems complete Bruck's Serodiagnosis of Syphilis is the fullest presentation we have of this subject The present edition is an elaboration of a monograph with the same title by Bruck in 1909 Bruck, who made the original tests on which was based the first publication by Wassermann, Neisser and Bruck on a serodiagnostic reaction in syphilis, which became known and used everywhere as the Wassermann test, writes the parts on the development of serodiagnosis in syphilis, on the nature of complement fixation in syphilis, and on the clinical value of serodiagnosis in syphilis, Zeissler writes the part on the technic of complement fixation, Jacobsthal on the numerous precipitation and flocculation tests, and Kafke the parts on the arachnoid fluid and on the luetin reaction This book will be of signal value to all workers, practical and investigative, in serodiagnosis Extensive and seemingly exhaustive bibliographies are given at the end of each part, in fact, more than 100 pages are occupied with references, and it is a matter of regret that a uniform style of giving the references, with year, volume and page in case of journal articles, was not followed throughout The American work seems to be given adequate credit, and the innumerable different tests and variations of tests brought forward in the field of serodiagnosis of syphilis are considered fully enough, and fairly, from both the practical and the theoretical point of view The summarizing statements on page 206 of what is regarded as at present the most perfect procedure for complement fixation as a test for syphilis are recommended to the careful consideration of workers in this field

LE CANCER THYROIDIEN Par Léon Berard, Professeur de clinique chirurgicale a l Universite de Lyon, et Charles Dunet, Professeur agrege a la Faculte de medecine de l'Universite de Lyon. Paper Price, 40 francs net Pp 585, with 149 illustrations Paris Gaston Doin, 1924

This book is divided into three parts The first part deals with the historical development of our knowledge of thyroid cancer, known only since 1750, with embryologic, anatomic and physiologic considerations, and with thyroid cancer in animals In the second part, the etiology, pathologic anatomy, physiology and biochemistry of thyroid cancer are discussed The third part is devoted to the clinical aspects of thyroid cancer—symptoms and clinical forms, acute, woody, latent thyroid cancer, cancer in aberrant thyroid tissue, diagnosis, and treatment The illustrations are instructive, particularly those of the microscopic structure The authors have had the chance to study a vast amount of illustrative material, clinical and anatomic, from one of the most goitrous regions of France, and devote 167 pages to the gross and microscopic anatomy of thyroid cancer Naturally, their observations support the idea that goiter predisposes to malignancy The chapters on diagnosis and treatment also are of great practical interest and value The presentation is clear and full, the teachings are reliable and sound It is a valuable monograph that ought to be studied by all physicians and surgeons who have to deal with goiters and other diseases of the thyroids, and cancer of the thyroid merits more attention than it seems to be receiving in this country It is regrettable that the book is not indexed, and it is perhaps true that sarcoma of the thyroid is not presented fully enough

L'ÉTAT ACTUEL DU PROBLÈME DU CANCER Par Gustave Roussy Professeur agrege a la Faculte de medecine de Paris Paper Price, 10 francs Pp 192, with 20 illustrations Paris Gauthier Villars et Cie, 1924

LES CANCERS Par E Duroux, Professeur agrege a la Faculte de medecine de Lyon Paper Price, 16 francs Pp 267, with 7 illustrations Paris Masson et Cie, 1923

These two books deal with cancer in a semipopular manner Roussy's book merits much praise, it will be read with profit, not only by physicians, biologists and public health officials, but also by all intelligent persons who wish to have a safe and solid general knowledge of cancer In only one particular does this book fall short in the rather superficial discussion of heredity in cancer it is not mentioned at all that hereditary influences operate in opposite directions, namely, in breeding in cancer and in breeding out cancer, and the breeding out quality is the dominating Duroux's book must be condemned because it overemphasizes the role of syphilis in cancer According to Duroux, heredity in cancer simply means congenital syphilis and requires iodids He also holds that the origin of cancer is due to a spirillar infection

LES FERMENTS DES LEUCOCYTES EN PHYSIOLOGIE, PATHOLOGIE ET THERAPEUTIQUE GÉNERALES Par Noel Fiessinger Preface de M le Professeur Chauffard Paper Price, 16 francs Pp 237, with illustrations Paris Masson et Cie, 1923

This book deals in an interesting manner with the ferments of the leukocytes There are eight chapters, six of which are devoted to the various groups of ferments in leukocytes, the seventh chapter considers the role of leukocytic ferments in autolysis, immunity, tissue growth and diagnosis, and the eighth chapter discusses the leukocytic ferments in therapy, but it is evident that as yet no practical results have been obtained At the end of each chapter is a helpful bibliography The book will be of interest and value to all students of the leukocytes

ENTRETIENS DERMATOLOGIQUES À L'ÉCOLE LAILLER (HOPITAL SAINT LOUIS) Serie nouvelle, deuxieme volume Maladies du cuir chevelu Par Dr R Sabouraud, Laboratoire municipal de la ville de Paris a l'Hopital Saint Louis Paper Price, 20 francs, net Pp 272, with illustrations Paris Masson et Cie, 1924

The second volume of Sabouraud's lectures deals with diseases of the scalp The author is particularly well qualified to discuss this subject, and the reader interested in this special subject will find his detailed discussions exceedingly interesting The consideration of alopecia areata is particularly detailed, and the significance of its relationship to other diseases, especially syphilis, is very well presented Nearly half the book is occupied with a discussion of the various aspects of this disease

ENFERMEDADES DEL HÍGADO Y DEL PÁNCREAS Por Luis Urrutia Paper Price, 30 pesetas Pp 608, with 55 illustrations Madrid Calpe, 1923

The Spanish gastro-enterologist Urrutia brings to a close his trilogy of gastro-intestinal diseases with this volume devoted to the liver and pancreas Urrutia takes up the different examination methods and tests, and then discusses the various conditions that may affect the biliary system If one were to single out a chapter, first place should be given to the minute discussion of gallstones The one part that seems inadequate, especially in these insulin days, is the brief and rather inconsequential reference to diabetes A pleasant feature of the book is the obvious familiarity with English and American literature, too often missing among foreign authors

# Miscellany

## PRIVATE HOSPITALS AS PUBLIC AGENCIES

### Right of Hospital to Exclude Physicians Generally from Use of Hospital Accommodations Denied

A decision defining the rights of certain classes of private hospitals in the state of New York with respect to the exclusion of physicians and surgeons from access to their wards for the purpose of treating patients has recently been rendered by Judge Alonzo G Hinkley of Buffalo, justice of the Supreme Court The decision was rendered in a suit brought by Dr Benjamin Van Campen against the Olean (N Y) General Hospital The Olean General Hospital, sometimes known as the Higgins Memorial Hospital, affords the only hospital accommodations in the city of Olean, except such as are afforded by a small private sanatorium The hospital is organized as a "domestic membership corporation," membership being open to physicians and laity alike and conferring no privilege except that of voting for directors The hospital had been accustomed to select a visiting staff, the members of which were granted the privilege of using the hospital and its equipment for the accommodation of their patients The plaintiff had been a member of the visiting staff for some time prior to Dec 19, 1923, when he was notified by the board of directors of the hospital that he had been dropped Thereupon he brought suit

In deciding the case, the court said

> It is apparent that it is neither a strictly public institution nor is it a strictly private institution Yet except that it is privately owned and privately controlled it is in every respect a public institution
>
> It is public in that it is subject to state supervision by the state board of charities and subject to visitation as to financial matters by this court it is established and partly maintained by public subscription it seeks and receives funds of the municipality raised by taxation it is exempt from taxation it is exempt from liability for negligence of its nurses and physicians and it is open to the public generally The actuating cause for its exemption from taxation its escape from liability for negligence, its receipt of public funds its public subscriptions and the other causes which go to make it a public institution must yield in return a reciprocal obligation to the public at large. A public charitable hospital therefore must serve indifferently all who may require its service and should not be permitted to arbitrarily close its doors as its mere whim may dictate, to persons who are willing to pay and to conform to its reasonable rules
>
> In the instant case if one of plaintiff's patients who was a large taxpayer was injured upon one of the streets of Olean and conveyed by ambulance to defendant s hospital he would be denied the advantage of plaintiff's skill and learning when confidence in such skill and learning might be one of the greatest aids to recovery Having been involuntarily assessed for the maintenance of the hospital and that assessment increased by its exemption from taxation and being a member of the corporation and having voluntarily contributed to the drives for funds the directors unless for good cause should not be permitted to deny him entrance to the hospital nor to say in whose hands his life should rest

Basing its decision on the supposedly inherent power of the court as a court of equity to deal justly, not as a matter of so-called substantial justice between the particular parties to the transaction, but in the enunciation of a principle of justice for all similar institutions and individuals like circumstanced and wherever situated," the court directed that judgment be entered 'decreeing to plaintiff the right to operate upon and care for such of his patients as desire treatment in defendant s hospital, subject to all reasonable rules and regulations" It declined, however, to require the hospital to reappoint the plaintiff to its visiting staff The importance of this decision is manifest, and the outcome on appeal will be awaited with interest

## BROKEN NEEDLES AND MALPRACTICE

For the physician or surgeon who may be so unfortunate as to lose a needle in the body of a patient, the decision in the case of *Vandelbaum v Weil* recently decided by the Appellate Division of the Supreme Court of New York affords instruction The patient sued for damages on account of alleged injury in the course of a tonsillectomy Three faults were alleged against the physician-defendant failure to use a general anesthetic, failure to discover that a needle had broken, and failure to make efforts to extract the needle before proceeding with the operation No blame was attributed to the defendant, however, on account of the breaking of the needle The defendant justified his choice of the anesthetic by showing that in the community where the case arose, local rather than general anesthetics were commonly used in removing the tonsils of adults That the defendant knew the needle had broken was demonstrated by proving that after his patient returned home and had an opportunity to recuperate through rest and sleep, he called on her on his own initiative, told her of the accident, and at his own expense procured the services of a physician to remove, if possible, the part of the needle remaining in the tissues After the accident and before proceeding with the operation, the defendant tried to locate and extract the missing part of the needle, but was unable to do so, but in the defendant's judgment, the patient's condition made it inexpedient to tell her at once of what had happened, and the presence of the needle in the tissues did not justify abandoning the operation The wisdom of the physician's course in not prolonging the search for the needle before completing the operation was shown by after-events, for even after the missing part had been located by the use of roentgen rays, efforts to remove it were unsuccessful In the trial court a judgment was awarded against the defendant, on the verdict of a jury, for $1,623 10 The Supreme Court, however, on appeal, unanimously reversed the judgment, and dismissed the complaint, with costs

# Medicolegal

### Corn Liquor Called "Poison"—Crazed by "Dope"

*(Brown - State (Ala) 98 So R 653 Bennett v State (Ark), 257 S W R 372)*

The Court of Appeals of Alabama, in affirming a judgment of conviction of defendant Brown of having violated the prohibition law, holds that there was no error in permitting the solicitor to designate the corn whisky found in the defendant's home as poison" The court says that the term "poison" is the subject of numerous definitions, a number of which rendered unavailing the contention that the trial court had erred in its ruling Moreover, courts are presumed to know that which is generally known, and it does not require unusual investigation or research, in the present era, to ascertain the fact that corn liquor is regarded by an appreciable precentage of the population of this vast domain as being exceedingly deleterious, noxious, pernicious, hurtful and destructive This court is presumed also to know that there is a difference of opinion on this and other multitudinous subjects pertaining to the resultant effects of the Eighteenth Amendment to the federal Constitution And, of course there are different grades of corn liquor, this court presumes But the law knows no distinction, nor does it recognize the difference between the good (if such there be) and the bad and the noxious sort Hence this court is not in a position to offer balm to the defendant by putting the trial court to error for permitting the solicitor in his argument to cast reflection on the grade of corn liquor admitted by the defendant to have been in his possession in large quantities

The Supreme Court of Arkansas, in affirming a judgment of conviction of defendant Bennett of involuntary manslaughter, holds that there was no error in the trial court s refusal to instruct the jury that

> If you find from the evidence in this case that the defendant drank what he thought was whisky but the effects on the defendant were of such nature as to paralyze his mind and were contrary to the effect of whisky and that he was crazed by said dope to that extent that he did not know what he was doing then and in that event the defendant would not be guilty of the crime charged even though you find he did while operating his automobile strike and knock the deceased under a wagon which ran over and killed him.

The supreme court says that the testimony on behalf of the defendant tended to prove that he was unconscious at the time as the result of voluntarily drinking what he thought was whisky The testimony of the defendant showed

that he "voluntarily drank the dope" which produced his temporarily besotted and unconscious condition No effort was made to prove that he at the time of the killing was afflicted with any disease of the mind, either permanent, temporary or periodical, such as delirium tremens, mania a potu or dipsomania It appeared that the killing was the result of reckless, wanton and careless driving of his automobile while he was unconscious as the result of beastly intoxication caused by his own voluntary drinking Voluntary drunkenness was no excuse for the crime The court did not err in refusing his prayer for instruction

### Criminal Production of Miscarriage—Manslaughter

*(Foster v State (Wis) 196 N W R 233)*

The Supreme Court of Wisconsin, in reversing a judgment of conviction of defendant Foster of having feloniously produced the death of the child of a woman advanced in pregnancy from six to eight weeks, says that neither in popular nor in scientific language is the embryo in its early stages called a human being Popularly it is regarded as such, for some purposes, only after it has become "quick," which does not occur till four or five months of pregnancy have elapsed It is obvious that no death of a child can be produced where there is no living child If pregnancy has not advanced sufficiently so that there is a living child—that is, a quick [illegible]—then felonious destruction of the fetus constitutes only [illegible]nal miscarriage In a strictly scientific and physio[illegible]ense, there is life in an embryo from the time of con[illegible]n, and in such sense there is also life in the male and [illegible]le elements that unite to form the embryo But the law, for obvious reasons, cannot in its classifications follow the latest or ultimate declarations of science It must for purposes of practical efficiency proceed on more everyday and popular conceptions, especially as to definitions of crimes that are *malum in se* (classed as evil in themselves) These must be of such a nature that the ordinary normal adult knows it is morally wrong to commit them That it should be less of [illegible] offense to destroy an embryo in a stage in which human [illegible] its common acceptance has not yet begun than to [illegible] a quick child is a conclusion that commends itself [illegible]st men The legislature saw fit to enact Section 4583 [illegible] the Statutes of Wisconsin of 1923, a law making it an offense to produce a criminal miscarriage It also made it a graver offense by Section 4352 to produce a criminal abortion resulting in the death of a quick child or its mother Both the quick child and the mother are human beings, hence, unlawfully to kill either constitutes manslaughter A two months' embryo is not a human being in the eye of the law, and therefore its destruction constitutes an offense against morality and not against lives and persons The defendant should have been prosecuted under the provisions of Section 4583 The evidence did not sustain a conviction under Section 4352 Therefore the judgment of conviction is reversed and the cause remanded for further proceedings according to law

### No Competent Evidence of Negligence Introduced

*(Saylor v Brady (Kan), 220 Pac R 1047)*

The Supreme Court of Kansas, in affirming a judgment in favor of the defendant, holds that, in an action for malpractice, in which the plaintiff offered no competent evidence of negligence on the part of the defendant, the trial court properly sustained a demurrer to the evidence The court says that the plaintiff in this case offered no expert evidence to show negligence It is the general rule in malpractice cases that the negligence in the treatment, which it is contended caused the injury, must be shown by physicians or by medical witnesses called as experts The claim of negligence here made was that in performing a surgical operation on the plaintiff the defendant made the incision too long and in an improper place, that he used defective catgut in sewing up the wound, and failed to use proper means to cause the wound to heal, also, that he failed to give proper advice and proper treatment after the operation Obviously, to entitle the plaintiff to recover a judgment for damages it was necessary for her to offer testimony by some witnesses who knew something of medical science, and that means a physician or surgeon, tending to show what length of incision was proper in the operation performed, where it should be made, what were the proper means to use to cause the wound to heal, or what constituted proper advice or treatment after the operation The medical witness called by the plaintiff testified that he had no judgment as to what was the proper treatment in the plaintiff's case, and could form no opinion thereon without knowing the circumstances of the case, such as the nature of the operation performed by the defendant on her, the condition of the wound, and the condition of the patient. These were not stated to him in a hypothetical question, and his judgment asked thereon, nor was the negligence of the defendant shown in any way by any witness familiar with medical science The plaintiff argued that after the operation, and especially after she left the hospital, the defendant did not visit her as frequently as he should have done, and did not give her proper advice and treatment. The same difficulty is found here as before discussed There was no evidence by any one competent to testify on the subject as to the period of time visits should have been continued in the condition the plaintiff was then, nor what advice was proper to give under the circumstances

The most favorable aspect in which to view the evidence offered in behalf of the plaintiff was that some of it tended to show an unsatisfactory result There was evidence tending to show an imperfect healing of the wound, resulting in a "surgical hernia," which would perhaps necessitate a secondary operation to relieve the plaintiff, but there was no evidence that such an unsatisfactory result could have been prevented by different treatment than that given, or that the condition of the patient was such that the secondary operation would have been advisable any time soon after the major operation In addition to that, the mere showing of an unsatisfactory or poor result is not sufficient to make a physician liable in damages

The contract of a physician in the treatment of a patient, implied in law, is that the physician possesses the learning and skill ordinarily possessed by men of his profession in the community in which he practices, and that in the treatment of his patient he will use such learning and skill with ordinary diligence and care When he does this he is not liable in damages, even though the results are not good

### Damages for Illness from Chewing Snake in Tobacco

*(R J Reynolds Tobacco Co v Loftin (Miss), 99 So R 13)*

The Supreme Court of Mississippi, Division B, says that this action was brought by plaintiff Loftin to recover damages for an illness alleged to have resulted from chewing a part of a plug of "Brown's Mule" chewing tobacco which had been manufactured by the defendant, and in which there was embedded the partially decomposed body of a small snake The declaration was grounded on the negligence in the manufacture of the plug of tobacco There was a verdict and judgment for $1,500 The court thinks that the testimony amply sustained the finding of liability, but that under the evidence as to the extent of the illness the verdict was grossly excessive, and that a verdict in excess of $500 should not be permitted to stand It says that if the plaintiff will remit $1,000, judgment for $500 would be affirmed, otherwise the cause would be remanded for a trial [illegible] question of damages only

### Testimony as to Defendant Having [illegible]

*(Martinez v State (Texas), 2[illegible]*

The Court of Criminal Appeals [illegible] prosecution for statutory rape, where [illegible] prosecutrix from some cause developed [illegible] gonorrhea, and physicians who examined [illegible] person when he was arrested testified [illegible] with the disease, that the fact that [illegible] person under arrest and thereafter [illegible] of a venereal disease is not violative [illegible] compelling one to give testimony [illegible]

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION Chicago, June 9 13 Dr Olin West, 535 North Dearborn Street Chicago, Secretary

American Association of Industrial Physicians and Surgeons Chicago, June 9 10 Dr A G Cranch National Carbon Co, Cleveland Secy
American Dermatological Association Minneapolis, Minn June 5 7 Dr Udo J Wile 211 East Huron Street, Ann Arbor, Mich Secretary
American Laryngological Association Swampscott Mass June 2 4 Dr George M Coates, 1811 Spruce Street Philadelphia, Secretary
American Neurological Association Philadelphia June 5 7 Dr Frederick Tilney 870 Madison Avenue New York Secretary
American Otological Society Swampscott Mass June 3 5 Dr Thomas J Harris 104 E 40th Street New York Secretary
American Pediatric Society Pittsfield Mass, June 5 7 Dr H C Carpenter, 1805 Spruce Street, Philadelphia Secretary
American Proctologic Society New York June 23 25 Dr Joseph E Montague 540 Park Avenue New York Secretary
American Psychiatric Association Atlantic City, June 3 6 Dr C Floyd Haviland Drawer 18 Capitol Station Albany, N Y Secretary
American Radium Society Chicago June 9 10 Dr Edwin C Ernst Humboldt Bldg St Louis Secretary
American Society of Clinical Pathologists Rochester Minn June 5 7 Dr Ward Burdick 652 Metropolitan Building Denver, Secretary
American Society of Tropical Medicine Chicago June 9-10 Dr B H Ranson Bureau of Animal Industry Washington D C Secretary
American Urological Association Atlantic City June 3 5 Dr Homer G Hamer 723 Hume Mansur Building Indianapolis Secretary
Associated Anesthetists of the United States and Canada Chicago June 9 10 Dr E H McMechan Avon Lake Ohio Secretary
Maine Medical Association Portland June 25 27 Dr B L Bryant, 265 Hammond Street Bangor Secretary
Massachusetts Medical Society Boston June 6 7 Dr W L Burrage 182 Walnut St Brookline Secretary
Medical Library Association Chicago June 9 10 Dr John Ruhrah, 11 East Chase St Baltimore Secretary
Medical Women's National Association Chicago June 9 10 Dr J W Fisher Middlesex Hospital Middletown Conn Secretary
New Hampshire Medical Society Manchester June 24 25 Dr D E Sullivan 7 N State Street Concord Secretary
New Jersey Medical Society of, Atlantic City June 5 7 Dr J B Morrison 97 Halsey Street Newark Secretary
Pacific Northwest Medical Association Vancouver B C June 26 28 Dr E Epplen 422 Paulsen Building Spokane, Wash Secretary
Radiological Society of North America Chicago June 6 7 Dr M J Sandborn Appleton Wis Secretary
Rhode Island Medical Society Providence June 5 Dr I W Leech 369 Broad Street Providence Secretary
Utah State Medical Association Logan, June 19 21 Dr William L Rich Boston Building Salt Lake City Secretary
Wyoming State Medical Society Cody June 17 19 Dr Earl Whedon Sheridan, Secretary

## ASSOCIATION OF AMERICAN PHYSICIANS

*Thirty Ninth Annual Meeting held in Atlantic City, N J, May 6 and 7 1924*

*(Continued from page 1726)*

### Syphilitic Aortic Insufficiency

DR R W SCOTT, Cleveland In syphilitic aortitis associated with mesaortitis there is commonly aortic insufficiency We made clinical and pathologic studies on twenty-four patients, all but two of whom died while in the hospital All had signs of aortic insufficiency, and all but one died of heart failure The diagnosis was confirmed post mortem Symptoms were noted from two weeks to three years before heart failure occurred Rest in bed gave temporary relief The patients were all well developed adults, with no previous heart condition The course was rapid and progressive after signs of edema and breathlessness had set in All patients, when first seen, had decompensation There was pallor of the face, but no anemia One third had a presystolic Flint murmur Usually, there was a systolic and diastolic murmur in the third and fourth interspace Sometimes a systolic thrill was noticed In no instance was the aortic orifice found stenosed at necropsy In every case there was syphilitic mesaortitis There was single atheroma in four cases In all cases there was hypertrophy of the heart, and thickening and dilatation of the left ventricle The aortic ring was distorted without actual narrowing but insufficient There was no disease of the other valves There was no relation between the extent of the disease and the narrowing of the aorta As to the cause of progressive heart failure in these cases one fourth of the patients had coronary obstruction Examination showed that in Nature could have sufficient time, there is a tendency to form a collateral circulation, but usually the cases are blocked off suddenly and have a suddenly fatal end

DISCUSSION

DR LEWIS A CONNER, New York I think that more aortic insufficiency in adult life is due to rheumatism than to syphilis, but we do not see these cases so much in hospital practice, as they are ambulatory

DR W S THAYER, Baltimore The frequency of aortic insufficiency due to syphilis is true I saw one case of aortic insufficiency after pneumonia, due to sudden tearing down of the two valves through a plaque situated in the junction I believe that it was caused by stretching at the point of junction of the valves This may occur with old syphilitic plaques

DR HARLOW BROOKS New York I was rather surprised at the high mortality in the cases studied What treatment was used? I believe that antisyphilitic treatment is successful in a high percentage of cases Another point is, Why did these patients die? I believe that they died from myocardial lesions or coronary lesions rather than from disease of the aorta itself

DR J H EYSTER Madison, Wis In what percentage of cases was the blood Wassermann reaction positive, and in how many cases was arsphenamin used?

DR JOSEPH PRATT, Boston The percentage of syphilitic aortic insufficiency cases in the whole number of aortic insufficiency cases depends on the clientele and its source I have analyzed the cases occurring in my own practice, and have found that they include 75 per cent of aortic insufficiency due to rheumatism or to arteriosclerosis not due to syphilis In the other 25 per cent, the Wassermann reaction was positive.

DR ALEXANDER LAMBERT, New York In Bellevue Hospital, for the last thirty years, the syphilitic type of aortic insufficiency has been much more frequent than other types —about 56 per cent of all cases I think that Dr Scott is correct in his estimation When the aortic valve is involved, one out of two is syphilitic

DR EMANUEL LIBMAN, New York The figures will depend not only on the incidence of syphilis in a given clientele, but also on that of rheumatic fever The latter is quite infrequent in some places Schottmueller's figures show a greater incidence of rheumatic aortic insufficiencies, but syphilis was a close second

DR HENRY A CHRISTIAN, Boston I believe that in aortitis occurring in youthful individuals rheumatism is more often the cause than syphilis Aortitis occurs more often in later life, with hypertension, but in many of these cases the Wassermann reaction is negative and the history is negative for syphilis

DR LEWELLYS F BARKER, Baltimore I have noticed a marked reduction in the number of cases of syphilitic aortic insufficiency in white people, since the employment of intensive treatment of syphilis

DR E S KILGORE, San Francisco I have been impressed with the variability of symptoms in early syphilitic aortitis sometimes there is only a pain under the shoulder blades sometimes a pain in the left flank, sometimes there is left epigastric pain, and in some cases there are no symptoms and they are discovered accidentally during the course of a roentgen-ray examination I think that early consideration of a few symptoms, or no symptoms is more important than consideration of symptoms in the later stages

DR R W SCOTT Cleveland In this series, 94 per cent of the patients had a positive Wassermann reaction As to why the patients died I think the obvious impairment of the aorta suggests that perhaps, in syphilis the lesion is a progressive dilatation In the aortic lesion in rheumatism there is no tendency to contraction, but there appears to be some burden put on the ventricle from which it does not recover As to medication, these patients all received mercury and potassium iodid, but not arsphenamin I think that the etiology depends on the class of [illegible] and his social

surroundings Variability of symptoms will depend on the organization of the patient If the patient is of a highly organized make-up, he is likely to be more affected, and there may be a question of a secondary neurosis as well Some patients are apt to suffer from angina pectoris, and others do not

### Study of Cases with Marked Hypertension, Adequate Renal Function and Neuroretinitis

DRS N M KEITH and H P WAGENER, Rochester, Minn We have studied twenty cases in which the blood pressure was high, particularly the diastolic, all showed neuroretinitis of a mild or severe type, all presented evidence of cerebral symptoms, either hemiplegia or severe headaches In some cases, brain tumor had been considered Another study was made of forty-one cases of brain tumor confirmed at operation In only one of these was there retinitis, and in this there was a coincident arteriosclerosis In our group of cases, death occurred within fifteen months in twelve cases Studies of the blood picture showed very little anemia The Wassermann reaction was negative In most of the cases the phenolsulphonephthalein excretion was good There was edema of the optic disks and surrounding tissue, without hemorrhages, but with cotton wool, or "snow bank" exudate There was always irregularity and reduction of the caliber of the arteries, although different from the classical arteriosclerotic appearance This group of cases differed from the essentially benign hypertension, also from chronic glomerular nephritis The important finding is the neuroretinitis The retinitis seems to be part of the general vascular disease rather than secondary to the primary lesion in the kidney

#### DISCUSSION

DR L G ROWNTREE, Rochester, Minn We have recognized benign hypertension which passes on to the malignant type with eyeground changes With the malignant type there are marked renal changes In the group of cases presented, with no renal involvement, it is a noticeable fact that none of these patients died a renal death, but died a cerebral death

DR EMANUEL LIBMAN, New York I have seen some of these cases The blood pressure need not be much elevated—in one of my cases it was at first only 160 systolic These patients have a tendency to develop recurrent attacks of hemiplegia Were any instances of hypercholesterolemia encountered? I have seen a few cases in which it was present to a moderate degree

### Progressive Thrombophlebitis of Splenic, Portal and Hepatic Veins

DR A S WARTHIN, Ann Arbor, Mich I have seen two cases in which there were no symptoms other than progressive enlargement of the abdomen One case was in a woman, aged 28, the mother of two children For two years there had been progressive abdominal enlargement The other was in a young man of 30 In the first case, a diagnosis of hepatic cirrhosis was made in the medical clinic, and of tuberculosis of the peritoneum and portal thrombosis in the surgical clinic Operation was advised No tuberculosis of the peritoneum was found She had ascites There was a small nutmeg liver, with marked central cirrhosis The abdomen filled up every few days, in spite of repeated tappings and withdrawal of 5 5 liters of fluid The fluid was clear There was no splenic enlargement The blood count showed 5,500,000 red cells The patient died suddenly Necropsy showed a thrombosis of the hepatic veins extending into the inferior vena cava, where there was a thrombophlebitis, most marked in the mouths of the veins, the smaller ones being obliterated and the larger ones partly so There was marked perivascular infiltration, associated with thrombi There was more or less thrombosis throughout the portal system In the second case a diagnosis of Banti's disease was made The man had enlargement of the abdomen with ascites The spleen was slightly enlarged Inflammation was limited to the upper part of the inferior vena cava, extending into the renal and suprarenal veins and back into the portal systems

## SYMPOSIUM ON RESPIRATION

### The Heart as Part of the Respiratory System

DR G CANBY ROBINSON, Baltimore The purpose of the heart is to drive oxygen to the lungs, and in this mechanism there are two factors (1) the number of beats, and (2) the amount of blood driven with each beat The amount of oxygen in arterial blood can be measured, but it is difficult to determine the oxygen in venous blood returning to the right side of the heart In normal persons, the heart rate shows very little variation, but there is considerable variation in the amount of oxygen per hundred cubic centimeters of heart blood The oxygen utilization variation is considerable, and there is a variation in the oxygen present in the blood from 13 to 31 per cent The minute output varies from 3,520 to 6,780 c c, and the output per beat from 55 to 103 c c The measurement of the respiratory quotient checks up very closely with these figures thus obtained Study of these figures shows that one cannot pay too much attention to variations within the normal, which are apt to be wide When there is greater demand for oxygen in the tissues traffic, the heart must furnish a greater supply There are three ways to get increased oxygen to the tissues (1) increase in the heart rate, (2) increased output per beat, and (3) increased oxygen utilization per unit of blood

### Aspects of Respiration Referable to the Lungs

DR F W PEABODY, Boston Recent work with the pneumograph and the spirometer has thrown much light on the physiology of the lungs The vital capacity method has shown that the study of lung ventilation is as important to the clinician as to the physiologist Vital capacity is the best index of lung ventilation, but the test depends very much on the cooperation of the patient There is a wide variation in normal standards, and also there is no special diagnostic significance to any particular result Each result must be interpreted individually, and disturbance in lung capacity must be correlated with the clinical picture presented by the patient In pulmonary disease other methods can be used, but in pleurisy it is necessary to know how far the ventilation of the lung is interfered with Its greatest value is in heart disease When there is dyspnea on exertion, it is a sign of cardiac insufficiency The vital capacity of the lungs in heart disease is an index of pulmonary circulation or interference of pulmonary movements on account of circulatory failure Thus, one division of the circulatory cycle interferes with another part of the cycle

### Relation of Carbon Dioxid and Oxygen

DR D D VAN SLYKE, New York The function of pulmonary respiration is to get carbon dioxid out of the blood and oxygen into it Carbon dioxid is diffused through animal membrane from thirty to forty times as rapidly as is oxygen The oxygen exchange, therefore, requires greater tension between the blood and the air, than does carbon dioxid A pressure of 3 mg is required for carbon dioxid and 70 to 80 mg for oxygen to obtain oxygen exchange between venous blood and alveolar air Arterial carbon dioxid tension is reached more rapidly than oxygen tension, and anything that retards free interchange of gases will affect oxygenization sooner than elimination of carbon dioxid Oxygen exchange, therefore, is more readily interfered with The respiratory resistence to oxygen lack is half as marked as to carbon dioxid accumulation The mechanism of carbon dioxid stimulus will increase respiration tenfold, while decrease in oxygen will result in an increased stimulus of only 0 6 per cent Actually, there is no way of increasing the amount of oxygen taken in to 20 per cent by volume, and clinically the significance of accumulation of carbon dioxid in the arterial blood is impossible because oxygen deficit is fatal The normal oxygen unsaturation in arterial blood is 90 per cent In pneumonia, this is 68 per cent It would seem, therefore, that the important factor clinically is the oxygen, and that one may assume that the carbon dioxid interchange is taken care of

### Nervous Control of Respiration

DR C A L BINGER, New York The lungs enjoy no automatism and depend on the interrelation of other organs

and systems However, we must regard respiration as being purely reflex, because while rhythmic breathing continues after section of the vagus, owing to an inherent rhythmicity in the respiratory center, we can only vary the rate and force of the discharge In regard to concentration of hydrogen ions in the blood as a stimulus which determines the character of the discharge, whether carbon dioxid has specific value is a moot point, but oxygen want is of the utmost importance, and deprivation causes damage which cannot be repaired The respiratory center is not an undifferentiated region, but is divided into different levels with different functions If the medulla is sectioned posterior to the corpora quadrigemina, normal breathing is not interfered with The forebrain is concerned with voluntary respiration, but not quiet, rhythmic breathing, but there is a region in the upper part of the pons which acts as a pneumotaxic center and probably coordinates respiratory motions Section at the region of the acoustic striae will produce respiratory tonus in the experimental animal Lower there is a gasping center, and if section is done below this, all respiration stops This probably corresponds to the "nerve vitale" of Galois It is possible to follow the action of the vagus, on the string galvanometer, and thus produce electrovagograms

### Effect of Tissues on Respiratory Functions of Blood

DR J P PETERS, New Haven, Conn It has been supposed that arterial and venous blood are interchangeable but experimental work has shown that they are quite different when exposed to different tensions of carbon dioxid We have made studies of comparison of arterial and venous blood in hospital patients Changes of as much as 10 per cent dilution, and 5 per cent concentration have occurred The cells may become more concentrated, or the plasma more diluted, or the opposite may occur In these changes there are changes in colloids which follow water changes In a patient with essential hypertension, we found a difference in carbon dioxid capacity, in cell volume and in plasma volume Venous blood is more acid and more concentrated The respiratory quotient depends on the fluid consumption So far we have not been able to get satisfactory respiratory quotients, in spite of refinements of technic

### Bronchoscopy in the Treatment of Lung Abscess and Bronchiectasis

DRS THOMAS MCCRAE, and E H FUNK, Philadelphia Bronchoscopy helps in drainage of the lesion and removes a residual fluid which constitutes the pathologic factor by means of the clots and plugs that interfere with proper drainage Bronchoscopy also aids in bacteriologic study and permits of introduction of medication In all, 746 bronchoscopies were done without any untoward reactions The majority of the patients were much improved, 10 per cent recovered Tuberculosis and empyema cases were not treated The patients who were improved were sufficiently well to return to work Bronchoscopy, in the hands of skilled men, is a safe procedure which warrants a trial when there is need for proper drainage as in lung suppuration, when proper aspiration of septic material is deemed wise, and when local medication is to be given

#### DISCUSSION

DR N E BRILL, New York Since 1915, we have been using bronchoscopy in bronchiectasis and lung abscess cavities, and the results have been gratifying Many cases of lung abscess have been definitely cured This method will replace surgery on the lungs, with its consequent tremendous mortality

DR JAMES ALEXANDER MILLER, New York We have had bronchoscopy performed by three different surgeons in sixteen cases some successfully We had five definitely serious accidents There were nine abscess cases and seven bronchiectases Of the abscess cases two were fatal There was one rupture of the lung Among the bronchiectases we had one fatality with hemorrhage One pneumonia patient died, one got well I feel that we must proceed with more caution before saying that this is a safe procedure

DR J P CROZER GRIFFITH, Philadelphia I can testify to the excellent results obtained

DR C L MINOR, Asheville, N C The great difficulty found in chronic pulmonary abscess is the extreme thickening of the wall I believe that this disappears with bronchoscopy, but, unless we can remove that plug, it interferes with washing out the lung

### Experimental Studies on Tuberculous Infection and Reinfection

DRS A K KRAUSE and H S WILLIS, Baltimore In human beings, the infection is contracted in childhood and lasts throughout life as adult tuberculosis Persons who are not susceptible are immune throughout life Tuberculosis therefore develops from slow infection from initial foci by bacilli that are there The bacilli are fed into the body, perhaps when immunity may not be high, perhaps many times during the day We tried to approach the problem in a similar way in infected animals (guinea-pigs), giving a mild germ which would give immunity and hypersensitiveness This was given in repeated inoculations day after day, intracutaneously with comparatively low doses, using living bacilli of low virulence to see whether the animal would tolerate the dose This might show whether an avirulent germ would take on new virulence In another test we gave very large doses of living tubercle bacilli to the animals, subcutaneously, for sixty-eight days With the large doses, by the fourth week allergy was reduced and the animals were a mass of intracutaneous abscesses On the sixty-ninth day we killed the animals, the tissues were clean which was confirmation of the fact that the inflammatory conditions of tuberculosis are allergic phenomena The animals also showed a polyserositis There was also a peritonitis, probably due to lymphatic blocking but this is not proved We then tried a series of virulent inoculations in fifty animals, with a series of fifty controls We also used the animals that received daily injections The animals that came out best had the repeated inoculations, next came the standard immunized animals, then the normal controls, the last were the repeated subcutaneous injection animals Half of the latter showed generalized tuberculosis, more than controls previously inoculated This test needs further confirmation

### Blood Fibrin Changes in Various Diseases, Especially in Diseases of the Liver

DRS J S MCLESTER and MARTIN T DAVIDSON, Birmingham Ala The same person in health shows fibrin values within fairly constant limits The fibrin falls in certain diseases, but keeps within fairly narrow limits for a given disease In typhoid and the anemias, the values are low In all other diseases except those with marked destruction of liver tissue fibrin values are high They are highest in pneumonia and septic states When a crisis occurs or an abscess is drained, there is immediate fall in fibrin values A sterile turpentine abscess is as effective in calling forth fibrin as is a bacterial abscess Anything that interferes with liver function or destroys structure gives low fibrin The lowest fibrin values were obtained in a patient with cancer of the liver with much destruction of tissue, the next lowest values were in a patient with extensive tuberculous destruction of the liver Tuberculous ulcer, other than hepatic, produced high fibrin values

### Pathologic Physiology of Botulism

DRS C W EDMUNDS and G F KEIPER JR., Ann Arbor, Mich Our experiments point to the fact that if we can render the patient nontoxic and keep him alive by artificial respiration we can give the nerve endings a chance to recover This would be a comparatively simple treatment, and could be applied to patients suffering from botulism

### Liver Injury in the Thyrotoxicoses, as Evidenced by Decreased Functional Efficiency

DRS L M WARFIELD and J B YOUMAN Ann Arbor Mich Injury to the liver may be great and occurrence of jaundice is of grave prognosis That liver injury plays a role is not sufficiently considered The decreased glucose tolerance is a possible result of damage to the liver In our work liver function was tested by the phenoltetrachlorphthalein method or

Rosenthal Patients with severe heart failure were not used, but liver tests were delayed till compensation was established In thirty-three cases, twelve showed evidence of liver injury, and four were doubtful None showed severe damage The liver damage did not show relation to damage of glucose tolerance In the group that showed no liver damage, some showed decreased glucose tolerance Damaged livers showed high metabolic rates, but no definite ratio, and in some cases normal liver function showed higher or as high metabolic rates Liver damage and loss of weight were apparently not connected, but liver damage was found in patients who could not handle the usual caloric intake There was no relation to age or sex

*(To be continued)*

## MEDICAL ASSOCIATION OF GEORGIA

*Seventy Fifth Annual Meeting, held at Augusta, May 7 9, 1924*

The President, DR JOHN W DANIEL, Savannah, in the Chair

## SYMPOSIUM ON ABDOMINAL SURGERY

### Preventive Abdominal Surgery

DR C W ROBERTS, Atlanta Surgery must be controlled by an attitude of personal responsibility for final results Postoperative surveys and adequate follow-up systems will do much to furnish data with which the earnest surgeon will measure the efficacy of his work In the light of final results psychic factors have had time to disappear, and many apparent early cures are shown to be of evanescent nature An abdominal operation should be justified by undisputed and tenable grounds It requires greater courage to refuse to operate than is exemplified when operation is chosen as a therapeutic measure When the profession and the public stop judging the surgeon's worth by the number of operations he performs and consider the principles which actuate his endeavors, there will be witnessed numerical reductions in many places where now the contest for numbers abounds Preventive surgery involves clean-cut, early diagnosis, which shifts the responsibility for its application to those who are first called, usually the family physician

### Surgery of the Gallbladder

DR. B T WISE, Plains Constipation is present in about 80 per cent of all cases of gallbladder disease Proper regulation of the diet and mild laxatives after surgical convalescence add greatly to rapid relief from distress, and many mild cases of gallbladder disease without gallstones may be relieved by adoption of this procedure When definite pathologic changes have occurred in the gallbladder that are sufficient to jeopardize life or impair health, surgical intervention is indicated I recommend cholecystectomy as the best treatment for infections of the gallbladder, and cholecystotomy when conditions are not favorable, with abdominal drainage in all cases in which infection is present or has recently been present

### Tuberculous Obstruction of Duodenum

DR W E PERSON, Atlanta The outstanding feature in my case was emaciation There was also marked tenderness in the epigastrium and over McBurney's point The abdomen was slightly distended, no masses could be felt There was no gross or occult blood present in the feces There was secondary anemia, and the blood Wassermann reaction was 2 plus Roentgen-ray examination revealed an unusually large, bulbous stomach with dilatation of the pylorus and first portion of the duodenum The duodenal cap could not be outlined A six hour plate showed 50 per cent retention A surgeon, who believed the trouble was pylorospasm due to a chronic appendicitis, removed the appendix The pyloric region was reported free from any gross pathologic changes The patient's condition became worse A clinical diagnosis of ulcer of the pylorus, possibly malignant, led to a posterior gastro-enterostomy There was marked dilatation of the stomach, the pylorus was only slightly movable, a mass of glands surrounded the pylorus but did not cause obstruction In the anterior duodenal wall, in the first portion, was a nodule about the size of a small English walnut The entire first portion of the duodenum was thickened The operative diagnosis was carcinoma of the duodenum and pylorus Microscopic examination of two glands removed from the greater curvature disclosed tuberculosis Careful search revealed no other tuberculous focus

### Carcinoma of Pancreas

DRS C D WARD and R H CHANEY, Augusta The two cases that we have seen represent the two great clinical groups of pancreatic carcinoma, the first with pain as the predominating symptom, the second with cachexia most dominant Both cases markedly illustrate the difficulty of even palliative surgery when the process is advanced One of our patients was only 23

### Cancer of Small Intestine

DR GEORGE A TAYLOR, Augusta Given a case of inexplicable, recurring, colicky pain in the abdomen which is not amenable to judicious catharsis and properly regulated diet, and is afebrile, it would seem that a thorough roentgen-ray study of the gastro-intestinal tract would be the best means of making a correct diagnosis Once a cancer of the small intestine has been diagnosed, or suspected, the patient should be operated on and the growth removed as radically as the circumstances will permit From the after-history of the majority of cases, the outlook for recovery from the disease does not appear so promising, but with earlier recognition the hope of ultimate cure may be brighter

### Postoperative Dehydration

DR R M HARBIN, Rome In the presence of a normal fluid content, dehydration may refer to a condition of need of a greater quantity of water to combat systemic infections, and for this reason forcing liquids becomes rational Practically no water being absorbed in the stomach and little in the small intestines, our main reliance depends on the colon In cases of acute hemorrhage, after the introduction of fluids the blood cells seem to increase with the total volume of blood In shock, intravenous saline solutions go to the tissues without increasing the total blood volume, and, as a result, depletion persists In systemic infections, the water needs are proportionately greater than in normal conditions The so-called Murphy-Ochsner gastric lavage—Fowler bed technic—should be resorted to in practically every laparotomy that has necessitated a drainage tube, because the degree of virulence of infection cannot be demonstrated at operation While the average laparotomy may not draw on the fluid reserves, laxatives are still necessary for comfort, but purgation should be avoided, and postoperative discomforts may not be altogether attributed to dehydration The crying need in all cases of acute gastro-intestinal stasis is fluids as a *vis a tergo* applied early and actively Clinical observation warrants the belief that the surgical hazards in cases of obesity are greatly one of dehydration Pituitary extract limits the degree of dehydration of the tissues by preventing loss of fluids through a reverse process of osmosis Forcing fluids is a valuable preoperative treatment in jaundice, prostatic obstruction and obesity, and especially in diabetes

### State-Wide Health Association

DR C H RICHARDSON, JR, Macon Last October the State-Wide Health Association was organized at Atlanta to conduct a campaign of education to arouse the people of this state to the support of the program which it proposes to sponsor The method proposed by this association is a closer understanding between the commercial bodies, the Medical Association of Georgia, and the state, county and city officials The medical men are to put before the local chambers of commerce, civic clubs and community meetings the facts and figures as to losses sustained through inefficiency and deaths due to preventable diseases, then have these various organizations cooperate, and have the Lillis health law adopted for their respective counties Then have

the cooperating bodies convert their legislators and state senators to the necessity for an appropriation that will make our state board of health an efficient and effective organization in carrying on the work of eradication of preventable diseases in Georgia

## SYMPOSIUM ON DISEASES OF CHILDREN

### Acidified Milk with Karo Syrup as an Artificial Feeding for Babies

DR W A MULHERIN, Augusta To make lactic acid milk with karo syrup, 3 pints of fresh cow's milk is thoroughly shaken so as to mix the cream with the milk The amount of milk needed in the formula is boiled for five minutes, and then placed on ice until it is cold The milk must be cold when lactic acid is added The scum is removed from the milk, and enough boiled water is added to replace the water evaporated from boiling One teaspoonful (60 drops) of lactic acid is added drop by drop for each 16 ounces of milk The milk is stirred while the lactic acid is added Now two level tablespoonfuls of karo syrup (blue label) for each pint of milk is stirred into the milk More karo syrup may be used for the average baby, if desirable The mixture is divided into the desired number of feedings and kept on ice It is warmed again to blood heat as needed Karo syrup is used because it is chiefly corn syrup, containing dextrin, 55 per cent , maltose, 30 per cent, and glucose 15 per cent One ounce of karo syrup is equivalent to one ounce of sugar The caloric value is 120 an ounce It is the most difficult of the sugars to ferment, therefore, less likely to cause diarrhea It is better tolerated by the infant's digestive organs than are the other sugars, and is more easily assimilated Acidified milk with karo syrup is practically as digestible as mother's milk It can be beneficially fed to sick babies the same as to well babies It is especially helpful to malnourished and marantic babies It is an ideal food to use for complemental feeding when mother's milk is not wholly sufficient It is the food of choice when strictly artificial feeding has to be practiced Owing to its inhibitory action on the growth of intestinal bacteria, it is an especially good summer feeding As yet, no contraindications to the use of lactic acid milk are known

### Modified Breast Milk

DR W L FUNKHOUSER, Atlanta My appeal is to modify mother's milk to the digestive ability of the baby, rather than trying to adjust any substitute If the fat content is abnormally high and the baby is vomiting a sour, curdy material and there are many fat curds in the stool, water may be given before nursing and the feeding interval lengthened A complemental feeding of a mixture low in fat, such as skimmed milk mixture or a solution of calcium caseinate, is given after nursing For the best possible results in all procedures, one should secure the mental rest of the mother The weight is a valuable guide as to progress, but should not be estimated more than once a week, except by orders from the physician for special reasons

### Some Problems of the Slowly Convalescent or Half-Sick Child

DR R L MILLER, Waynesboro Children who have had their tonsils and adenoids removed should remain for a longer time in the hospital, and more attention should be paid to the condition in the posterior nares and throat than we are accustomed to give them We should follow up more closely children who have suffered from the acute exanthems, especially looking for early tuberculous trouble

### Intestinal Protozoa

DR V P SYDENSTRICKER, Augusta The protozoal infections are no less frequent than the infections due to hookworm, are no less active as causes of debility and economic loss, and should be sought for with no less assiduity Like the hookworm and typhoid carrier, the infected individual constitutes a menace to the public health Secondary to amebiasis in importance are the flagellate infections The diagnosis of these infections depends entirely on the degree of thoroughness with which the examination of stools is carried out Emetin and ipecac given in adequate dosage, with proper rest and dietary regimen, will cure ambiasis The various other remedies have not proved efficacious We have found that oral or transduodenal administration of salicylic acid, in 1 gm doses, immediately followed by large doses of magnesium sulphate, gives more satisfactory results than any other form of medication

### Status Thymicus in Children

DRS W N ADKINS and W T FREEMAN, Atlanta When practicable, all new-born babies should have a roentgen-ray examination of the thorax When in doubt, a single therapeutic dose of roentgen ray to the thymic area will do no harm, and will probably help the existing condition as well as the diagnosis Before subjecting lymphatic hyperplasia patients to operation, it would be wise to have a roentgenogram of the thorax made to rule out demonstrable thymic enlargement

### Tetany

DR CLEVELAND THOMPSON, Millen Tetany from whatever cause can be controlled and cured, and the drug *par excellence* is calcium It is immaterial whether one uses the chlorid or the lactate, but it must be used in large doses I use the lactate in teaspoonful doses in infants, and have seen nothing but good from it During an attack, 2 c c of a 25 per cent magnesium sulphate solution, given intramuscularly and repeated every three or four hours, will relieve the spasm until the calcium can be exhibited The spasm can be relieved also by liberal bloodletting In general, one should remove the cause if possible That due to an alkalosis is best treated by large doses of tenth normal hydrochloric acid, or by the administration of ammonium chlorid Finally, in all cases, from whatever cause, one should relieve constipation, flood the system with fluids, give no sodium bicarbonate, limit the proteins, and secure quietude and rest The diet should consist of foods rich in calcium, such as milk, oatmeal and vegetables, especially cauliflower Cod liver oil is valuable, but must be given in large doses

### Treatment of Pneumonia

DR STEWART R ROBERTS, Atlanta In the treatment of pneumonia, one should maintain an elastic routine, treat the symptoms as they arise, avoid cardiac depressants, maintain the circulation, and use liquids freely to decrease the toxemia A large urinary output is necessary The patient should be kept comfortable, his pain relieved A comfortable sleep every night is desirable The patient is to be given a food intake sufficient to maintain strength The fever is reduced by water, internally and externally, by cold air, and by an icebag to the head The pain may be relieved by morphin, by strapping the affected side or by counterirritation The patient should have a bath daily The patient's mouth, nose and body and the bed should be clean, and the air fresh and pure There is no specific for pneumonia Careful nursing is probably more important than drugs In general, the fewer the drugs and the wiser the clinical judgment, the safer the patient

### Treatment of Bone and Joint Tuberculosis

DR LAWSON THORNTON, Atlanta Early recognition and immediate treatment are essential for prevention of massive destruction and deformities Immobilization is absolutely necessary for healing of bone and joint tuberculosis Fusion of tuberculous joints insures permanent healing of the disease Hospitalization of many months facilitates the treatment of this disease Heliotherapy and general hygienic treatment play a great part in healing tuberculosis of bone

### Air Cystograms to Demonstrate Prostatic Enlargements that Protrude into the Bladder

DRS EDGAR G BALLENGER, OMAR F ELDER and WILLIAM F LAKE, Atlanta Cystoscopic examinations are not always advisable or feasible Air cystograms are not required in all cases We do not advise air cystograms in every case but rather in those in which additional information is desired than that obtained in the usual examinations, and in those in which it is impossible to do a cystoscopic examination.

Comparatively little discomfort is produced by the air in the bladder in those patients who have residual urine and are free from cystitis

### Surgical Problems in Carcinoma of the Breast

DR MARION C PRUITT, Atlanta The risk of a brawny arm or decrease in function, or pain in the region of scar, following radical operation, is the price the patient must pay for extension of life or a permanent cure Excision with the cautery gives a greater percentage of cures than excision with the knife Preoperative irradiation increases the percentage of cures Postoperative irridiation is very valuable, but not so effective as preoperative

### Some Phases of Cardiac Insufficiency

DR T C COLEMAN, Augusta Deaths from heart failure are apparently increasing with rapidity As a cause of death, heart disease outranks any other disease I believe that the increase is more apparent than real, partly because of more thorough diagnostic measures, more accurate mortality records, and actually through diseases incident to the World War and the epidemic of influenza For all clinical purposes, most cases of cardiac insufficiency, whether relative or complete, are exocardial A few exceptions will be found Sudden death may be due to heart block, by hemorrhage into the floor of the fourth ventricle, possibly by fright, by acute dilatation of the stomach from pressure, and the absorption of toxins The agents and their toxins responsible for cardiac insufficiency may be said to be included under the class of all pyogenic organisms A pyogenic focus may exist anywhere in the body and the individual may be unconscious of it, but in the end the heart strain forces him to consult a physician This emphasizes the desirability of frequent so-called "health examinations"

### Etiologic Factors in Mental Breakdowns

DRS JAMES N BRAWNER and A F BRAWNER, Atlanta In a study of 210 cases, in thirty-five, or about 15 per cent, the mental breakdowns were due to a direct invasion of the brain by micro-organisms In about 7 5 per cent, the psychoses were due to focal infections in other parts of the body, 22 5 per cent of the mental breakdowns were due to micro-organisms that invade the body It is very probable that at least 33 per cent of all mental breakdowns are due to infections The next most important etiologic factor is defective constitutional make up In fifty-four cases, or about 25 per cent, this was the main factor in causing the psychoses, in reality, many patients show a defective constitutional make up, but it is not given as the main etiologic factor About 10 per cent of the cases were due to the ingestion of alcohol and drugs, 16 per cent were acute autotoxic confusional and hallucinated states The fact that most of these patients recover rather suddenly also suggests that their recovery is due to the formation of an antitoxin the same in principle that occurs in the cure of the infectious diseases About 5 per cent of the cases were due to old age, cerebral softening, etc, and 3 per cent to endocrine disturbances, which does not include the endocrine abnormalities found in dementia praecox About 10 per cent were due to various causes, such as defective food, prolonged physical work (usually in the hot sunshine), and the puerperium About 7 per cent were due to unpleasant psychic experiences, emotional shocks or unbearable situations, usually in love affairs

### Relation of Adherent Prepuce to Epilepsy

DR E BATES BLOCK, Atlanta Of 500 cases of epilepsy, fifty-five patients had adherent prepuce—thirty-eight males and seventeen females In more than one third of the cases the convulsions began before the third year, and in forty out of the fifty-five patients, before the age of 10

### State Board of Health Program

DR. J P BOWDOIN, Atlanta We expect to ask the coming legislature to fix the appropriation for the state board of health on a per capita basis on the estimated population and promulgated by our census bureau, beginning in 1925 with 4 cents, and increasing 2 cents per capita each succeeding year until a total of 12 cents is reached This will give us the same as North Carolina and half as much as Florida There is a baby born in Georgia every seven minutes Before another sun sets, eleven of them have died, 4,366 died last year under 1 year of age, 3,157 were stillborn, 637 mothers died in childbirth Of the 69,615 babies born, 22,709 had no physician in attendance This is one of the most serious problems of our state

### Cause and Treatment of Vernal Conjunctivitis

DR A G FORT, Atlanta We have studied thirty cases Smears from the conjunctivae showed eosinophils in seven out of sixteen cases, blood examination showed a constant eosinophilia Eosinophilia from the presence of intestinal parasites was ruled out, as in every case in which the stool was examined for them, none were found We accepted the theory that vernal conjunctivitis is a disease kindred to hay fever, and that the manifestations are caused by a hypersensitiveness of the conjunctiva of children to some foreign substance, most likely pollen, as this hypersensitiveness manifests itself during the pollinating period for grasses and trees We made diagnostic skin tests with pollen and noted the reaction All of our cases so examined gave a positive reaction We then proceeded to treat with pollen extract as suggested by the American Hay-Fever Association, and our results have been uniformly good Of the fifteen patients so treated, we have had two cures, and thirteen have shown much improvement

### Nonseasonal Hay-Fever

DR HAL M DAVISON, Atlanta The proper designation for the symptom-complex formerly known by the names of hay-fever, vasomotor rhinitis and hyperesthetic rhinitis, is atopic coryza In the cases of nonseasonal atopic coryza, sensitiveness has been demonstrated to orris root, rice, house dust, the pollens, wheat flour, chicken features, goose feathers, cat dander, horse dander, corn meal and a number of different foods Every case of nonseasonal atopic coryza should be tested with the entire inhalant group—including the pollens—with the foods, and with the bacteria The immunologic treatment of cases of atopic coryza showing definite sensitization to the inhalants is uniformly successful In cases in which no sensitiveness can be demonstrated, an underlying endocrine basis should be searched for, and after such basis has been established, proper treatment instituted Administration of peptones, or of calcium salts, with thyroid extract, together with irradiation with the air-cooled ultraviolet light, may be efficacious in such cases

### Acute Pancreatitis Following Gestation

DR L A BAKER, Tifton My patient had an acute attack of appendicitis about three months before conception Operation was recommended, but declined During the time of the acute inflammatory process, the ducts of the pancreas were occluded, and the contents became inspissated, for three months there was practically no secretion from the pancreas into the alimentary tract, and during this time stones formed, and when they were expelled the patient had colic The ducts in all probability were completely emptied Since that time, from all clinical aspects, the gland has been functioning properly Since recovering from these attacks, the patient has been well in every particular

### Measles Transmitted by Blood Transfusion

DR H P HARRELL, Augusta In seeking an explanation as to why a patient developed measles on the eighteenth day while in the hospital, we learned that, two days after the transfusion, the donor had a typical measles rash She was in the preeruptive stage when she gave the blood for the transfusion As there were no cases of measles in the hospital at this time, and as the donor did not come in close contact with the patient, we came to the conclusion that the disease was transmitted through the blood The interval between admission and transfusion was eighteen days The interval between transfusion and development of measles was ten days In selecting donors it would seem advisable to take a careful history as to exposure to measles and to look for Koplik spots

# Current Medical Literature

## AMERICAN

Foreign journals are loaned to individual subscribers to THE JOURNAL for a period of three days only Requests for copies should enclose 6 cents postage Only one journal will be loaned at one time Journals are not loaned to libraries

Titles marked with an asterisk (*) are abstracted below

### American Journal of Roentgenology and Radium Therapy, New York

11 311 382 (April) 1924

Study of Sternum by Roentgen Rays G E Pfahler, Philadelphia —p 311
Ryan's Rule A H Pirie, Montreal —p 316
*Roentgen Ray Interpretation of Duodenal Ulcer J S Diamond, New York —p 317
Effect of Direct Radiation Over Precordium on Heart Size Heart Mechanism and Myocardium of Rabbits B Gordon G T Strong and E S Emery, Jr Boston —p 328
Indications for Roentgen Ray Therapy in Chronic Tonsillitis and Pharyngitis W D Witherbee New York —p 331
Melanosarcoma Treated with Roentgen Rays A K Owen, Topeka —p 335
Massive Collapse of Lungs M Ritvo Boston —p 337
*Effect of Roentgen Rays on Bone Marrow E H Falconer, L M Morris and H E Ruggles San Francisco —p 342
Roentgen Ray Study of La Brea Fossils H Snure Los Angeles —p 351
Diverticula of Stomach E S Emery, Boston —p 354
Case of Pneumoconiosis with Necropsy Findings J H Green, Rochester N Y —p 358
Roentgen Ray Diagnosis of Aortic Aneurysm E C Samuel New Orleans —p 361
Roentgenographic Chest Technic H L Sampson, Thudeau, N Y —p 373
Causes of Poor Contact Between Intensifying Screens and Films R B Wilsey, Rochester N Y —p 375

**The Niche in the Diagnosis of Duodenal Ulcer**—A series of thirty cases is presented by Diamond revealing twenty, or 66 per cent, niches, eighteen functional defects, twelve of which are associated with niches, six organic defects representing old callous ulcers, nineteen, or 95 per cent of the twenty niches revealed an accompanying retraction The most constant roentgen-ray finding was the niche, which may vary from the mucosal defect to a deep penetrating crater It is shown that a duodenal defect is most often functional in nature and is produced by a contraction of the circular muscle fibers on the longitudinal bundles on the lesser curvature side, and that it seldom represents the ulcer base, the ulcer being usually opposite to and in the same segment of the defect Less often is the defect produced by organic changes such as scar formation or induration Another type of spastic contracture is shown, "retraction," most often found on the lesser curvature side, surrounding the base of the niche, and due to contraction of the longitudinal bundle itself, thus often intensifying the appearance and size of the niche The administration of belladonna for forty-eight hours and the restriction of the patient to a milk diet, invariably cause a relaxation of the accompanying spasm, thus permitting the filling of a niche which was not visualized in the previous examination This method of reexamination has increased the number of visualized niches

**Effect of Irradiation on Bone Marrow**—Direct irradiation of the long bones of the dog, in both light and heavy dosage, did not appreciably stimulate or decrease the contained marrow cells Repeated small doses of roentgen rays over the spleen caused a slight increase in the number of cells in the marrow of the long bones (right and left tibia) of the dog, also there was noted an increase in the proportion of immature marrow cells Irradiation over the spleen produced a rise in the number of platelets in the peripheral circulation, which rise was maintained during the experiment The general condition of both animals was improved during the experimentation and the hemoglobin and erythrocytes increased No untoward effects were noted as a result of frequent bone marrow punctures

### American Journal of Syphilis, St. Louis

8 193 376 (April) 1924

*Quantitative Studies in Syphilis from Clinical and Biologic Point of View XI Partition of Arsenic in Serum and Clot After Intravenous Administration of Arsphenamin Neo-Arsphenamin and Silver Arsphenamin J A Fordyce I Rosen and C N Myers New York —p 193
*Id XII Arsenic Content of Blood After Intravenous Injection of Tryparsamide J A Fordyce, I Rosen and C N Myers New York —p 264
*Id XIII Arsenic Content of Cerebrospinal Fluid After Intravenous Injection of Hypertonic Saline Solution and Neo Arsphenamin J A Fordyce, I Rosen and C N Myers, New York —p 297
Acute Febrile Syphilitic Meningitis Two Cases C E Kiely Cincinnati —p 308
*Increase of Permeability of Choroid Plexus to Arsphenamin with Methyl Violet D C Smith and J A Waddell, Charlottesville, Va —p 310
*Reinfection in Syphilis M A Reasoner New York —p 313
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*Kahn Reaction in Serologic Diagnosis of Syphilis H L Keim Ann Arbor Mich —p 323
*Sachs Georgi Flocculation Test for Syphilis, Simplification of Technic S Hata, Tokyo Japan —p 334
*Syphilitic Substance in Syphilitic Serum K Taoka, Tokyo Japan —p 340
Aortic Pain and Antisyphilitic Treatment C G Cumston Geneva, Switzerland —p 349
Pooled Arsphenaminized Fortified Serum in Treatment of Syphilis J G Marthens Dayton Ohio —p 353

**Partition of Arsenic in Serum After Medication**—From the evidence presented by Fordyce, Rosen and Myers, there emerges the fact that contrary to the usual claims regarding the greater efficiency of arsphenamin, these findings indicate a superiority on the part of neo-arsphenamin in syphilis of the central nervous system Further, irrespective of the type of drug used, there is a fixed partition coefficient of the clot Whenever abnormal variations appear in the arsenic value in this portion of the blood, unusual manifestations have taken place in the patient Careful study of these values indicate that the composition of the blood and of the serum are important factors which determine the presence or absence of arsenic at any particular moment

**Arsenic Content of Blood After Tryparsamide**—Three hundred and four specimens of blood were examined by Fordyce et al for arsenic after intravenous injections of tryparsamide Analysis of blood removed immediately after injection showed that 35 2 per cent of the arsenic injected remained in the circulation with 46 8 per cent localized outside of the blood stream At the end of fifteen minutes, 7 65 per cent remains in the blood At the end of seventy-two hours only 0 012 per cent is present in the blood stream, indicating that tryparsamide is removed rapidly from the circulation and that it is eliminated rapidly

**Arsenic Content of Cerebrospinal Fluid After Medication**—Arsenic determinations were made on seventy-six specimens of cerebrospinal fluid after the intravenous injection of 15 per cent sodium chlorid solution followed by neo-arsphenamin six hours later Analyses made at various periods showed a considerable regularity in the quantity of arsenic which penetrates to the cerebrospinal fluid at these particular intervals Only one specimen was found in which it was not present While there appears to be a uniformity in penetration, it would seem from the data collected that this procedure does not favor the passage of large amounts On comparison with the Swift-Ellis method with neo-arsphenamin it will be seen that 10 5 per cent of the fifty-six fluids examined had quantities varying from 50 to 83 6 per cent milograms per 100 gm of dried specimen, while after the hypertonic saline injection only one case in seventy-six showed as high a content as 53 mg

**Effect of Methyl Violet on Permeability of Choroid Plexus**—Smith and Waddell summarize their experiments by stating that methyl violet when given intravenously, does not increase the permeability of the choroid plexus to arsphenamin in dogs

**Reinfection in Syphilis**—Of the six cases reported by Reasoner it is believed that the history is sufficient on which to base an opinion that four of them were cured of syphilis and then became reinfected

**Value of Kahn Test for Syphilis**—The clinical application of the Kahn test has been studied by Keim in 1,000 cases Three hundred and fifty of these examinations were performed with the original method as previously reported The remaining 650 tests were carried out by Kahn's latest procedure in which three different serum antigen proportions are employed

and the tests are completed a few minutes after mixing serum with antigen The results obtained indicate that the newer procedure possesses a higher degree of sensitiveness In addition the rapidity of reading of final results is a marked practical advantage Further, the test has lost none of its specificity in spite of the fact that a few weak reactions are obtained in a very few apparently nonsyphilitic serums Finally, the Kahn test, as performed at present, gives promise of ultimately solving many of the problems which must always be associated with the use of the complicated Wassermann test for the laboratory diagnosis of syphilis

**Modification of Sachs-Georgi Test**—A modification of the Sachs-Georgi technic is presented by Hata which is said to require less time, is more simple than the original technic, and gives equally satisfactory results

**Specific Syphilitic Substance in Syphilitic Serum**—The results so far obtained by Taoka indicate that there is a certain specific syphilitic substance in syphilitic serum, which he has isolated and which combines with visceral extract It is probably not a protein body, and it is not yet known by what process the substance is produced in the human body

## American Review of Tuberculosis, Baltimore

9 83 190 (April) 1924

*Spread of Tuberculous Infection in Body A K Krause, Baltimore—p 83
*Concentration of Bacteria by Aluminum Hydroxid Cream C C Saelhof Chicago—p 97
*Use of Volatile Hydrocarbons in Concentration of Tubercle Bacilli P M Andrus and H E MacMahon, London Ontario—p 99
Influence of Sunlight on Hydrogen Ion Concentration of Blood T C Balderrey and O Barkus—p 107
*Besredka's Tuberculosis Antigen and Complement Fixation Reaction B M Fried, Boston—p 112
*Complement Fixation Reaction in Tuberculosis with Kolmer's Quantitative Method R A Kilduffe, Pittsburgh—p 127
*Complement Fixation Test for Tuberculosis K T Sasano, Mt McGregor, N Y—p 136
Antigenic Properties of Bacteria Giving Complement Fixation with Tuberculous Serums L Dienes and L Balas, Asheville, N C—p 144
Production of Antibodies Against Alcohol Extract of Tubercle Bacilli L Dienes and L Balas, Asheville N C—p 154
*Calcium Chlorid Treatment of Tuberculous Enteritis E H Roberts, Denver—p 159
Correlation of Necropsies and Clinical Medicine in Tuberculosis W B Jameson Hamburg, Pa—p 173
Tuberculosis Work Abroad R Clifford, Boston—p 185

**Tuberculosis a Metastasizing Infection**—Tuberculosis, says Krause, is a conspicuous example of a metastasizing infection It spreads by concentric growth or direct extension of foci, or by short excursions of bacilli along lymphatics or by their lymphatic passage over greater distances, or by venous or arterial transference, or by conveyance along visceral ducts or channels, as by bronchi, ureter and intestines

**Concentration of Bacteria by Aluminum Hydroxid**—A method for the rapid concentration of bacteria in fluid medium by the use of aluminum hydroxid cream is presented by Saelhof This cream forms an excellent background for micro-organisms which do not take the counterstain of Gram's method

**Concentration of Tubercle Bacilli**—An improved technic for the demonstration of tubercle bacilli in morbid products is described by Andrus and MacMahon They use a 0 5 per cent solution of sodium hydroxid and chloroform Among the clinically tuberculous the tubercle bacillus has been demonstrated in 57 per cent of cases negative by the direct method on repeated examinations Bacilli have been demonstrated in the sputum of persons considered nontuberculous, necessitating a change in diagnosis

**Besredka's Antigen for Complement Fixation Test for Tuberculosis**—The complement fixation test with the use of Besredka's tuberculosis antigen was performed by Fried on 1,199 tuberculous and nontuberculous patients Six hundred and thirty-nine of these patients (nontuberculous) were under treatment for diseases of the heart, lungs, liver, kidney, etc Thirty of the 639 cases were clinically diagnosed as tuberculosis The complement fixation test with Besredka's antigen was positive in twenty-four instances out of the thirty Of the 609 patients diagnosed as nontuberculous the test agreed with the clinical findings in 598 instances, or in 98 2 per cent In only eleven instances of these 609, or in 1 8 per cent, was the test positive, while clinically no tuberculosis could be discovered Of another series of 160 patients, also nontuberculous, the test agreed with the clinical diagnosis in 154, while in six instances, the test for tuberculosis was positive Of another series of 400 serums from tuberculosis patients under treatment, 359 showed a positive complement fixation test with Besredka's antigen Of fifty-one serums from syphilitic patients, with a strongly positive Wassermann reaction, without clinical signs of tuberculosis, only six fixed complement in the presence of the tuberculous antigen The stability of Besredka's tuberculous bacillary emulsion antigen was studied from a point of view of its antigenic power, as well as its anticomplementary properties After twelve months it was found that the antigen still retained all of its original properties

**Complement Fixation Test for Tuberculosis**—Kilduffe thinks it inadvisable to abandon the possibility of tuberculosis as a diagnosis because two, or a dozen sputum examinations have been negative As long as there are physical signs suggestive of tuberculosis, sputum examinations should be repeated until the bacilli are found or the condition can be shown to be nontuberculous A positive complement fixation reaction when the sputum is negatuve, especially if this finding be repeated, would be strong evidence of the presence of an active tuberculous focus, although, as yet, the diagnosis should hardly rest on this uncorroborated evidence Tuberculosis cannot be ruled out because of a negative complement fixation reaction, but a positive reaction, especially if repeatedly demonstrated, forms strong evidence of the existence of a tuberculous focus In other words, the value of the complement fixation test in tuberculosis depends entirely on the degree of intelligence and clinical acumen with which it is utilized and interpreted in correlation with the clinical data The results of complement fixation tests in 104 cases of tuberculosis are reported and the findings discussed

**Complement Fixation Test for Tuberculosis**—From the evidence presented by Sasano, it appears that the complement fixation test in tuberculosis compares favorably with the Wassermann test in syphilis for diagnostic purposes It resulted in 42 per cent of positives in minimal, 84 per cent in moderately advanced and 94 per cent in far advanced cases, averaging 80 5 per cent in the total tuberculous patients examined At the same time, there were only 26 3 per cent of positive sputums among the minimal, 45 per cent among the moderately advanced and 70 6 per cent among far advanced cases, averaging 46 per cent in the total cases of tuberculosis examined

**Calcium Chlorid in Treatment of Intestinal Tuberculosis**—The results obtained by Roberts and his associates with calcium chlorid, as an adjuvant to heliotherapy and dietetics in the treatment of seventy cases of intestinal tuberculosis have been good, in their opinion Five cubic centimeters of a 5 per cent aqueous solution of recrystallized calcium chlorid is injected intravenously once weekly, every fifth day, or twice weekly as indicated by the results

## Archives of Neurology and Psychiatry, Chicago

11 501 618 (May) 1924

*Aphasia and Apraxia P Bailey, Boston—p 501
*Partial Continuous Epilepsy G Wilson and N W Winkelman, Philadelphia—p 530
*Clinical Experiments in Myotonia Congenita (Thomsen) Parasympathetic Nervous System S Weiss and T Kennedy, New York—p 543
*Brain Changes in Starvation G B Hassin, Chicago—p 591
Neuralgia of Face Analysis of 754 Cases C H Frazier and F C Russell Philadelphia—p 557
Paralysis of Ascending Type Due to Bite of Woodtick P Bassoe, Chicago—p 564

**Aphasia and Apraxia**—Two observations of metastatic tumor of the left hemisphere are recorded by Bailey in detail They confirm the deductions which Pierre Marie and Foix have drawn from the study of war wounds of the aphasic area

**Partial Continuous Epilepsy**—Cases reported by Wilson and Winkelman point out that partial continuous epilep

may be due to microscopic lesions in the cortex It is important to realize this possibility because pathologic study of two of the cases showed that a great many cells were unaffected, and the chances for recovery, at least to some extent, were good When partial continuous epilepsy occurs, the natural tendency of most diagnosticians is to visualize a more or less gross lesion of the brain, such as a tumor, abscess, subdural or extradural hemorrhage It is a well known fact that perhaps the most common cause of jacksonian epilepsy is idiopathic epilepsy, and Wilson and Winkelman believe that it is in this type of case that the so-called inside jacksonian fit often occurs

**Myotonia Congenita**—The observations reported by Weiss and Kennedy afford no evidence that the disease is primarily of muscular origin, but they point toward the fact that it is due to an abnormally increased activity of the parasympathetic nervous system which normally regulates the tone of striated muscles The administration of thyroid substance and thyroxin exerted the same sensitizing action on the effect of atropin in this case that they exert on the effect of epinephrin in normal individuals This suggests that the thyroid secretion is a sensitizing agent for both the sympathetic and the parasympathetic systems

**Changes in Brain During Starvation**—Hassin reports his findings in the brain of a man found in a dying condition in Odessa, South Russia The man was of middle age, his body was swollen and cyanotic, with a number of sores on the legs He presented a familiar "picture of death from starvation" There were no macroscopic changes in the brain The pia mater appeared normal, showed neither opacities nor thickenings, and was easily detachable from the parenchyma There were no changes at the base of the brain, in the ventricles, or in the size and appearance of the gray and white substances Structural changes were absent in the nerve elements and elsewhere The changes present, of a degenerative character, were in the form of accumulation of lipoids in the ganglion cells, glia and the blood vessels The character of the ganglion cell changes much resembles those found in the viscera of experimental animals

## Boston Medical and Surgical Journal

**190** 683 732 (April 24) 1924

*Heart in Hypertension J P O Hare and W G Walker Boston—p 683
*Ventricular Fibrillation Following Ectopic Ventricular Tachycardia W D Reid Newton Mass—p 686
Strangulated Hernia Thirty Cases M T Field Salem Mass—p 688
Case of Solitary Cyst of Kidney G G Smith, Boston—p 691
Removal of Tonsils During Acute Infection C T Porter Boston—p 693

**Heart in Hypertension**—O'Hare and Walker emphasize the point that in hypertension the heart is only one element in the general vascular disorder It may be the object of no concern or it may be the weakest link in the entire chain In the series of 100 cases which they studied, the average age of the patients was 55 The blood pressure ranged from 152 systolic and 76 diastolic to 290 systolic and 170 diastolic In 28 per cent the diagnosis of chronic myocarditis was made In addition, cardiac symptoms were noted in a much larger number of these patients Dyspnea was the most frequent symptom, occurring in 60 per cent Cheyne-Stokes breathing frequently occurred as a terminal event Another type of dyspnea paroxysmal nocturnal smothering, occurred in thirteen patients This symptom had no fixed relation to the height of the blood pressure, occurring with pressures as low as 160 systolic and 95 diastolic It was much more common, however, in those with high diastolic pressures Paroxysmal dyspnea occurred in only one patient who had precordial pain Cardiac pain is most commonly present as a dull ache in the region of the apex and lower precordia Typical angina occurred in only three cases Edema of the legs was present in 29 per cent of the series Acute pulmonary edema did not occur in any case Hypertrophy was found in 83 per cent The ratio between the total width of the heart and the chest width was increased in 96 per cent of the cases Thirty out of fifty electrocardiograms studied showed left ventricultr preponderance, twenty-nine showed no preponderance at all, and one showed questionable right preponderance Increase in size of the great vessels, indicated by a greater percussion dullness in the second interspace, was present in 48 per cent In a series of fifty-seven foot plates of the heart the measurements of the great vessels were abnormal in 50 per cent of the cases

**Ventricular Fibrillation Following Ventricular Tachycardia**—A case is reported by Reid in which ventricular tachycardia was followed by ventricular fibrillation The nature of the mechanisms is discussed and it is suggested that both are due to the excitation wave traveling in a circular path through the ventricular muscle This is said to be the first instance on record in which electrocardiograms taken from a human being have shown the sequence of ventricular ectopic tachycardia to fibrillation of the ventricles

**190** 733 770 (May 1) 1924

*Citrate Method of Blood Transfusion R Lewisohn New York—p 733
Treatment of Late Syphilis G A Dix, Worcester, Mass—p 742
Value of Routine Physical Examination L H Spooner, Boston—p 746

**Results of Transfusion with Citrated Blood**—Lewisohn reports the results of transfusion of citrated blood in 269 cases of hemorrhage, diseases of the blood, in preoperative and postoperative cases, sepsis, incurable conditions, general debility and acute poisoning Seventy-four patients were cured, forty-four were improved and 138 died Lewisohn favors this method which, he says, is therapeutically as efficient as transfusion by any other method Furthermore, no matter what method is used, the transfusion chills are of the same nature

## Georgia Medical Association Journal, Atlanta

**13** 155 198 (April) 1924

Operations on Stomach and Duodenum, Horsley Operation C Usher, Savannah—p 159
Acute Medical Abdomen M B Allen Hoschton—p 158
*Roentgen Ray Treatment of Impaired Hearing J J Richardson Washington D C—p 161
Proper Use of Nonsurgical Gall Tract Drainage G M Niles Atlanta—p 165
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Acute Alimentary Disturbances in Children T D Walker Jr, Macon—p 169
Diabetes Mellitus P Cheek Gainesville—p 171
Adequate Laboratory Service in Modern Hospital W Burdick, Denver—p 173

**Roentgenotherapy of Impaired Hearing**—In the course of the systematic examination of patients, it has been Richardson's custom to include in all appropriate instances a complete radiographic examination of the paranasal sinuses and mastoids It frequently happened after these radiographic surveys that patients volunteered the information that their impaired hearing, which was not the trouble that brought them to Richardson, was markedly relieved Inquiry revealed that roentgenologists have often been informed of certain visual and auditory "aura" experienced by patients undergoing radiographic exposure of the head It was natural to infer from this that roentgenization of the auditory brain center might be essayed with hope of good results Richardson began to use the roentgen-ray treatment in his practice, using very mild doses From the beginning, the results were gratifying Regardless of the character of the initial pathology provoking the deafness, many patients, who had failed to respond to other methods, found their hearing acumen improved under the new treatment It was soon found that the radiation could be directed practically anywhere on the head, with the same betterment of hearing clinically, a fact which suggested that the therapeutic effects noted might not depend exclusively on the stimulation of the auditory nerve center, but that possibly the nerve itself as well as the associated neural and nonneural tissues might be subject to the stimulating influences of the rays Richardson now uses a method which consists of gentle irradiation of the head from four angles, focussing for the sake of convenience, on the sella turcica First through the temporal region on the right, directing the central ray 1 inch in front and 1 inch above the external auditory meatus, second, over the occipital protuberance with the head inclined forward, third the left temporal region in the same manner as the right, and, finally, through the anterior fontanel, with the head inclined back-

ward It is important to keep the quantity of energy used constant and nonfluctuating, as the best results are ensured with the use of a carefully stabilized current Whenever examination disclosed the presence of anatomic pathology, as for example the lymphatic hyperplasia that accompanies some cases of eustachian and middle ear inflammation, it seems best to use, in addition to the small photo-electric dosage, a heavier dosage such as is known to reduce hyperplastic tissues These applications are proportioned to the extent of the anatomic pathology revealed, and are repeated only at long intervals Richardson emphasizes the fact that this roentgen-ray treatment must be regarded as purely adjuvant

## Indiana State Medical Association Journal, Ft. Wayne

17 101 136 (April) 1924

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Plea for Materia Medica F G Jackson, Muncie —p 117

**Idiopathic Osteopsathyrosis**—In Rodriguez' case there were ten spontaneous fractures and marked deformity of the lower extremities There was no hereditary history

## Journal of Biological Chemistry, Baltimore

59 243 527 (March) 1924

Cystin Deficiency and Vitamin Content of Lentil D B Jones and J C Murphy, Washington, D C —p 243
*Applications of Colorimetric Phosphate Method A P Briggs, St Louis —p 255
*Effect of Exercise in Diabetes I Changes in Acid Base Equilibrium and Their Relation to Accumulation of Lactic Acid and Acetone H E Himwich, R O Loebel and D P Barr, New York —p 265
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*Are Guanidines Present in the Urines of Parathyroidectomized Dogs? I Greenwald, New York —p 329
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*Blood as Physicochemical System II L J Henderson, A V Bock, H Field, Jr, and J L Stoddard, Boston —p 379
*Effect of Insulin on Reducing Substance in Cerebrospinal Fluid of Normal Rabbits M Kasahara and E Uetani, Kyoto, Japan —p 433
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Carotin Principal Cause of Red and Yellow Colors in Perillus Bioculatus (Fab), Biologic Origin from Lymph of Leptinotarsa Decemlineata (Say) L S Palmer and H H Knight, St Paul —p 443
Anthocyanin and Flavone Like Pigments as Cause of Red Colorations in Hemipterous Families Aphididae, Coreidae, Lygaeidae, Miridae and Reduviidae L S Palmer and H H Knight, St Paul —p 451
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Palladium Electrodes J C Andrews, Philadelphia —p 479
Uniformity in Invertase Action III Stability of Enzyme J M Nelson and R W E Kerr, New York —p 495

**Applications of Colorimetric Phosphate Method**—Procedures are given by Briggs for the application of the colorimetric phosphate method of determination of various phosphorus compounds of the blood, for calcium and magnesium, and for total base

**Effect of Exercise in Diabetes**—Himwich, Loebel and Barr found that following short periods of vigorous exercise in the diabetic, there are changes in acid-base equilibrium somewhat greater than in normal persons doing a comparable amount of work In the arterial blood, these are apparent in a reduction of carbon dioxid capacity, carbon dioxid tension and alkalinity

**Tetany Not Due to Guanidin Intoxication**—Greenwald believes that his experiments seem to offer good reason for refusing to accept, without further evidence, the idea that tetany is due to guanidin intoxication There are two, and only two, well authenticated metabolic changes after parathyroidectomy One is the lowered calcium content of the serum or plasma and the other is the diminished excretion of phosphorus in the urine These must be regarded as being intimately connected with the sequence of symptoms observed No theory of the causation of tetany can be considered adequate if it fails to take both of these into consideration

**Creatinin Formation in Brain**—Data are presented by Hammett which show that the rate of creatin transformation into creatinin is practically the same in extracts of brain tissue as in extracts of muscle tissue, when the two extracts are obtained from tissues from the same animal It is, therefore, concluded that creatinin formation is not a process essentially confined to muscle tissue, but is a property of brain tissue as well The findings are experimental support for the hypothesis of Folin that creatinin formation is a property of the total normal tissue metabolism

**Blood as Physicochemical System**—Henderson and his associates aim to give a complete description of the changes known to occur in blood during the respiratory cycle and of the physicochemical system which determines them

**Effect of Insulin on Reducing Substance in Cerebrospinal Fluid**—According to Kasahara and Uetani there is a decrease in the concentration of the reducing substance in the cerebrospinal fluid after subcutaneous administration of insulin There is some parallelism of the concentration of the reducing substance both in the fluid and blood after the administration of insulin

## Journal of Bone and Joint Surgery, Boston

6 235 500 (April) 1924

*Possible Sequela After Operation for Removal of Internal Semilunar Cartilage N Dunn, Birmingham, England —p 237
*Epiphyses of Bones of Extremities at Puberty W E Sullivan, F D Geist and G G Muller, Madison, Wis —p 239
*Operative Treatment of Old Congenital Dislocation of Hip F D Dickson, Kansas City, Mo —p 262
*Causes of Loose Bodies Arising from Articular Surface of Joint D B Phemister, Chicago —p 278
*Age Factor in Hypertrophic Arthritis T A Willis, Cleveland —p 316
Diseases of Blood Vascular System of Extremities Experimental Study B Brooks, St Louis —p 326
*Progressive Myositis Ossificans A P Mackinnon, Winnipeg, Manitoba —p 336
Compound Fractures of Femur and Open Fractures into Joints W O Sherman, Pittsburgh —p 344
Report of One Hundred and Ninety Fractures of Femur A M Shipley, Baltimore —p 350
*Treatment of Claw Foot F W Stuart, Birmingham, England —p 360
*Mechanism of Normal Foot and of Flatfoot D J Morton, Milford, Conn —p 368
Loose Body Formation in Synovial Osteochondromatosis, Etiology and Pathology H T Jones, Rochester, Minn —p 407
*Patellapexy for Paralysis of Knee W G Stern, Cleveland —p 459
Evulsion of Posterior Crucial Ligament of Knee Joint T K Richards, Boston —p 462
Adult Torticollis, Report of Case M Strunsky, New York —p 466
"Baseball Finger" Cured by Operation R Stephens, New York —p 469
*Treatment of Fractures of Femur W H Byford, Chicago —p 471
Late Ulnar Nerve Palsy Following Elbow Fracture W M Brickner New York —p 477

**Neuroma Explains Failure to Recover After Removal of Semilunar Cartilage**—Dunn reports a case of neuroma of the patellar branch of the internal saphenous nerve and suggests that it may explain certain cases of incomplete recovery after removal of the internal semilunar cartilage Simple excision of the scar may not be sufficient to cure the condition Excision of the scar and evulsion of the nerve is the most satisfactory treatment

**Studies on Epiphyses**—Dissection of three cadavers of children from 12 to 13 were used by Sullivan et al in this work They discuss vascularization of the epiphyses, epiphyses as a criterion of age, multiple ossification centers and the relation of the epiphyses to the joints

**Operative Treatment of Old Congenital Dislocation of Hip**—Of the eight patients reported on by Dickson, five were operated on All were unilateral cases The results were satisfactory in four cases and the patients are leading normal lives The fifth patient became infected, has marked limitation of motion in the hip and has derived no benefit from the operation The procedure carried out consisted in forming a new acetabulum by turning down a flap taken from the side of the ilium just above the true acetabulum and includ

ing that part of the ilium forming the false acetabulum found in these cases No originality is claimed for this operation

**Cause of Loose Bodies in Joints**—A consideration of the evidence for and against the various theories of causation of the classical loose bodies leads Phemister to the conclusion that an entirely satisfactory explanation has not yet been offered The lesion does not seem to be a complete intra-articular fracture Incomplete or subchondral fracture passing between cartilage and bone or through bone is a more plausible explanation, although there are many objections to it Articular cartilage is devoid of nerve supply and there is extremely little sensation in the cancellous bone which it overlies It is possible that a fracture of the articular surface might result from undue violence and be accompanied by little or no pain Such injuries would easily be overlooked or forgotten, and this would account for the frequent absence of a history of trauma of such violence as would ordinarily be considered necessary to produce such changes Primary necrosis of the portion which becomes detached has been shown not to occur in at least a certain percentage of cases, and portions killed experimentally by radium do not slough into the joint Arterial embolism, either fatty or bacterial, cannot be accepted as the cause, for there is no plausible reason why it should be limited to the particular regions of the ends of the bones from which the loose bodies spring There has been no definite pathologic evidence presented in support of embolism Constitutional disturbance of the bones may play a role, but not enough clinical or pathologic data are at hand to warrant classifying the zones of separation as identical with the clefts of Looser which form in the shafts in such diseases as late rickets and osteomalacia No inflammatory changes have been observed in loose bodies and "osteochondritis dissecans" has never been observed during the stage of separation of a fragment consisting of bone and cartilage

**Age Factor in Hypertrophic Arthritis**—Willis' paper is based on definite bony changes consisting of new bone formation as found in a series of 625 spinal columns The study is limited to the changes appearing in the lumbar portion of the spines The exact amount of bone change in the various skeletons was determined by visual estimation More or less hypertrophy was present in 364 specimens removed from persons aged from 25 to 85 years

**Progressive Myositis Ossificans**—In the case cited by Mackinnon the head was normal The neck was negative except for some pencils of bone in the substance of one of the deep cervical muscles on the left side The appearance of the back suggested the ridges on a relief map A rod of bone about 1 inch in diameter extended from the midthoracic region to the sacrum, joining the spinous processes above, but lying behind them below Marked atrophy of the erector spinae group of muscles was apparent On each side the latissimus dorsi seemed to have been converted into an irregular band of bone, which extended well into the posterior axillary fold but not to the humerus There were narrow pencils of bone in both deltoid muscles In the left arm a rod of bone about ½ inch wide and 3½ inches long extended from the middle of the humerus downward in the direction of the brachialis anticus muscle A similar but smaller mass extended upward from the insertion of the triceps The right arm, both forearms, and both hands were apparently normal In the right thigh, laterally, were irregular plaques of bone, but most remarkable was a dense band, 1½ inches wide, extending from the os pubis to the upper part of the femur in the position of the upper margin of the abductor magnus, its density contrasting with the rarefied appearance of the femur The left thigh showed a similar but smaller band in the adductor region and a thick mass corresponding to the upper part of the rectus femoris Lower down there were other but less dense masses The upper third of each leg showed some involvement, and there was some new bone formation on the dorsum of the left foot Both great toes showed a typical microdactylia The heads of the metatarsal bones were irregular, and the two phalanges were fused and shortened and in the position of hallux valgus, the tip of this digit being under the middle of the second toe

**Treatment of Claw Foot**—Stuart performs a modification of the Steindler operation The incision, from 1½ to 2 inches long, is made on the inner side of the foot, with its center opposite the inner tubercle of the os calcis The skin and subcutaneous fat are separated from the plantar fascia by dissection and a periosteum elevator is inserted into the wound until its curved end is felt to pass over the outer border of the foot, the plantar fascia, muscles and periosteum are now divided, the former well back on the tuberosity of the os calcis, the latter close to its tubercles, the abductor hallucis is also divided at its origin from the internal lateral ligament All the divided structures are now raised from the bone as far forward as the calcaneocuboid joint and the deformity corrected by hand or wrench The wound is sutured either before or after wrenching

**Mechanism of Flatfoot**—Viewing flatfoot as a primary inward rotation of the os calcis, and the strains as an abnormal inward thrust of body weight in the area of astragaloscaphoid joint, a somewhat different method of treatment has been devised by Morton and tried out very successfully It employs the principle of a right angle lever by which the body is employed as an active force to automotically resist the faulty inward thrust and displacement of the foot A piece of light sheet metal or other rigid material is bent to a right angle, one part is placed under the heel (within the shoe) and the other portion extends upward along the inner side of the foot toward the astragaloscaphoid joint The angular bend acts as a fulcrum Body weight, first falling on the heel piece, immediately stabilizes the vertical extension in its position so that any tendency toward a faulty inward movement of the foot is immediately resisted In this manner the foot is protected from all lateral strains and caused to function in its normal balanced posture without artificial support of the arch None of the joint movements of the foot are interfered with in any way and no compression is produced on any of the important plantar structures, since there is no contact with the under surface of the foot, except at the heel

**Patellapexy**—In chosen cases of infantile paralysis Stern fixes the patella to the lower end of the femur in order to stabilize the knee joint and keep the knee from flexing while bearing weight A bed is prepared for the patella in the femur The patella is turned around 180 degrees on its long (vertical) axis and nailed or screwed firmly to the femur The lateral tissues are sewn over as tightly as possible to what was formerly the posterior surface of the patella, the skin closed and a cast put one with the knee in complete extension The rotation of the patella permits an easier and more complete denudation of nonosseous tissue of the patella by working on its anterior surface—and allows of the taking up of a certain amount of "slack" in the quadriceps tendon system and also mechanically tends to keep the denuded surfaces together by the tendency of the patella to rotate back again, while if the posterior surface of the patella were used the patella would have the tendency to ride away from the surface of the femur The operation is said to be indicated in all cases of paralysis of the quadriceps when the patient cannot walk without braces, in which the hamstrings are also paralyzed or weak or, if the hamstrings are good, in which the knee cannot be fully extended, and in cases in which transplantation of the hamstrings has either been unsuccessful or undesirable

**Acute Flexion of Leg on Thigh Position in Fracture of Femur**—In a case of fracture through the lower third of the femur, Byford applied calipers to the condyles of the femur, and placed the thigh and leg on a double inclined plane splint with 35 pounds extenson applied to the calipers At the end of a week the deformity showed no improvement. The splint was then removed and the extension changed so that the thigh was held perpendicularly to the bed. The leg then by its own weight assumed a position of acute flexion on the thigh with the foot extended The extension of the foot relaxed the tension on the Achilles tendon and the muscles of the calf The extreme flexion of the knee relaxed the gastrocnemius, which held the lower fragment down

The flexion of the lower fragment of the femur being limited by the capsule and ligaments of the knee joint, and with the calipers acting as a fulcrum, the foot and leg being the heavier and longer arm, applied positive upward pressure to the lower fragment Reduction was accomplished in three days of this position

## Maine Medical Association Journal, Portland

14 183 200 (April) 1924

Health Program in Maine Schools A O Thomas—p 183
For Better Health C F Kendall, Augusta—p 185
Division of Social Hygiene G H Coombs—p 188
How Maine "Teams Up" for Health W D Thurber—p 189

## Michigan State Medical Society, Grand Rapids

23 191 224 (May) 1924

Essential Interdependence of Medicine and Nursing H Cabot, Ann Arbor—p 191
Practical Significance of Function and Anatomy of Base of Cranium and Cranial Nerves in Otology, Ophthalmology and Rhinology C F McClintic, Detroit—p 194
Industrial Medicine A M Shaeffer, Jackson—p 204
*Treatment of Advanced Cancer of Uterus with Heat and "Starvation Ligature" G van A Brown Detroit—p 206
Intrathoracic Goiter S Levin, Houghton—p 208
*Early Diagnosis of Pregnancy Phlorizin Test L W Haynes, Detroit—p 215

**Heat and Starvation Treatment of Cancer of Uterus**—The so-called "starvation treatment" of advanced cancer of the uterus consists in ligation of the internal iliac, the ovarian, and where deemed necessary, the mediosacral arteries The ligation is applied to lessen the nutrition of inoperable new growths, thus checking their further development and often causing their disappearance Since the malignant cells are five times more vulnerable to heat than normal cells, cutting down the blood supply by ligature still further lessens it by sealing the smaller vessels with heat, and also, through the heat producing an increase of connective tissue which further protects against the ingress of the malignant cells Brown uses the Percy cautery In a series of eighteen patients, there was no immediate mortality Of these every one showed improvement locally One died later of sepsis One, in whom ligation was not done but in whom heat was used following incomplete operation, improved locally and in general health Eleven of the eighteen patients are living In six of the eighteen, operation is too recent to draw any conclusions Of the other twelve patients, all but one for a time showed improvement both locally and in general health Five are alive and well with no subjective or objective evidence of return

**Phlorizin Test for Pregnancy**—Haynes reports twenty cases in which he used the Kammitzer and Joseph test Seemingly healthy nonpregnant women gave negative results with this test Women pregnant less than twelve weeks and probably sixteen weeks, as a rule gave positive results with the test

## Missouri State Medical Association Journal, St. Louis

21 137 172 (May) 1924

*Chicken Blood and Serum in Pneumonia in Children H C Berger and J G Montgomery, Kansas City—p 137
Fractures of Femur H E Pearse, Kansas City—p 139
Cervical Rib Seven Cases W A Myers, Kansas City—p 146
Amblyopia Following Epistaxis in Thromboplastic Purpura L Post, St Louis—p 152

**Chicken Blood Protects Against Pneumococci**—Berger and Montgomery present the results of work with laboratory animals and with children in whom pneumonia was treated with the blood or serum of fowls, mostly chickens The normal chicken serum, when not too old, afforded a high degree of protection, when reasonably fresh, it gave complete protection against an infection which killed the control animal in twenty hours The aged normal human serum in some instances showed a considerable degree of protection The protection afforded by the other serums used was negligible The preservation of normal chicken serum with tricresol renders it valuable for clinical purposes for long periods of time The dosage seemed to have little influence as the smallest dose of serum used was probably sufficient to furnish the available protection The authors believe that there is present in the normal chicken serum a protective substance against the pneumococcus of each of the three types This protective substance is not an agglutinin The protection afforded by chicken serum is inversely proportional to the period of time elapsing between infection and administration of the serum

## Ohio State Medical Journal, Columbus

20 265 344 (May) 1924

Puncture of Cisterna Magna in Children J G Kramer, Akron—p 269
Perforation of Ulcer of Stomach A S McKitrick, Kenton—p 271
Carcinoma of Stomach J L DeCourcy, Cincinnati—p 272
*Treatment of Pertussis W T Drake, New Lexington—p 273
*Cure (Root Section) for Trigeminal Neuralgia W T Coughlin, St Louis—p 274
Acute Otitis Media in General Practice A L Stotter, Cleveland—p 276
*Epidemic Jaundice Report of Twenty Eight Cases W A Whitman, Columbus—p 278
Nurse in Public Health Work E G Fox, Washington, D C—p 280

**Ether Treatment of Pertussis**—Drake reports several cases of pertussis in which the intramuscular injection of ether was followed by very good results The duration of the disease was reduced to an average of three and one-half weeks, the number of paroxysms was reduced by one-half after the first injection, and the whoop disappeared usually before the end of three weeks Vomiting ceased after one or two injections Serious complications were aborted, and in cases seen late, with bronchitis and bronchopneumonia, the affection was aborted in a few days

**Gasserectomy for Tic Douloureux**—In twenty-three cases of tic douloureux, Coughlin has cut the sensory root of the Gasserian ganglion inside the skull between the ganglion and the brain with complete success The operation was first performed by Frazier All the patients are alive and well

**Epidemic Jaundice**—In the twenty-eight cases observed by Whitman, the onset was insidious with no increase in temperature, until about the time jaundice occurred The temperature would rise from one-half to one and one half degrees The other symptoms were marked lassitude, loss of appetite, slight mental depression and abdominal pain about three constant points These points of pain were present at one or all of the following locations McBurney's point, a similar point on the left, and at about one inch below the xiphoid in the midline In a few cases there was slight muscular rigidity, this symptom lasting usually from four to seven days after jaundice was noticeable Bile was always detected in the urine before jaundice was noticeable in the skin or sclera Jaundice occurred for only ten days in the case of the shortest duration and for forty-nine days in the case of longest duration The average duration was twenty-seven days Many of the men gave positive histories of having been bitten by bedbugs The injection of 5 cc of blood from icteric patients, into the abdominal cavity of three male rabbits, caused jaundice in two of the rabbits It was most noticeable in the sclera and skin of the ears The rabbit which did not develop jaundice had been inoculated with blood from a very mild case of jaundice The laboratory report indicated that out of fifteen blood specimens submitted, in only two were many motile organisms, spirochetal in character but more sluggish than spirocheta pallida, found These two specimens gave strongly positive Wassermann reactions Guinea-pig inoculations in fifteen cases produced no symptoms of infection One animal died, it was impossible to demonstrate microscopically or culturally any spirochete in this case

## Public Health Journal, Toronto

15 145 192 (April) 1924

Disease at St Paul's Bay Syphilis W R Riddell—p 145
Story of Hamilton Health Association J H Holbrook—p 158
Teacher as School Physical Inspector R George—p 165
Production of Pure Milk A R White—p 170

## South Carolina Medical Association Journal, Greenville

20 91 114 (April) 1924

Case For and Against Coffee G M Niles, Atlanta, Ga—p 93
Obligation as Physician and Citizen D N W Grant—p 96

## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

### British Medical Journal, London

1 653 696 (April 12) 1924

*Hyperplasia of Breast Tissues Mazoplasia G L Cheatle—p 653
*Kinks of Surgical Importance A E Webb Johnson—p 655
*Tuberculosis of Breast N Raw—p 657
*Hematemesis Without Lesions ' G Monod—p 658
Concurrent Vicious Circles J B Hurry—p 660
Roentgen Ray Treatment of Hyperthyroidism C W S Saberton—p 661
*Antidote for Arsenic Bismuth and Mercury Poisoning H C Semon—p 662
Slipping Rib E N Russell—p 664
Repair of Recurrent Inguinal Hernia by Gauze Filigree D O Donovan—p 664
Discharge of Ascaris Lumbricoides Through Appendicitis Scar A S Cook and D G C Tasker—p 664
Xanthoma Diabeticorum M Azer—p 665
Rheumatism and Erythema Nodosum R Anderson—p 665

**Mazoplasia**—The single word offered by Cheatle in place of hyperplasia of breast tissue is mazoplasia He describes the various forms of hyperplasia of breast tissues (1) desquamative hyperplasia of epithelium lining ducts and acini, (2) permanent duct and acinus cysts, (3) character of papillomas, and (4) nondesquamating epithelial hyperplasia Cheatle regards this last division as a cystic condition, and insists that these cysts are dangerous and that the breast containing them should be removed His opinion is that usually at some point or other they infiltrate surrounding tissues, hence it should be regarded as part of the process of carcinoma It affects duct and acinus in combination The duct epithelium also becomes markedly papillomatous as well as lactiform Cheatle suggests that when surgeons say that 'chronic mastitis" is never a prelude of carcinoma, it is possible they do not realize that the clinical signs on which they diagnose "chronic mastitis" include several totally different pathologic changes As a rule, these breasts contain small cysts in which the epithelium is active, and Cheatle maintains that even breasts containing big cysts ought to be removed, because he has specimens in which totally unsuspected carcinoma and papillomas were found The existence of papillomas can be diagnosed by a careful examination of the ampulla and ducts of breasts Very often one ampulla can be felt enlarged and painful, manipulation of which gives rise to a discharge of blood from the nipple The duct leading from the tumor containing ampulla is irregularly enlarged and convoluted Cheatle's opinion is that the existence of one multiradicular papilloma of the breast is so rare that these signs justify the removal of the whole breast and axillary glands

**Kinks of Ureter and Gastro-Intestinal Tract**—Webb-Johnson discusses kinks of the ureter and of the gastro-intestinal tract He also reprimands surgeons whose extreme conservatism leads to failure to accept clinical evidence because it is new This he considers a kink of surgical judgment

**Tuberculosis of Breast**—In thirty years Raw has seen only seven cases of proved tuberculous mastitis—four in the female and three in the male They were all carefully investigated, and animal inoculations proved them to be tuberculous In no case has tuberculous mastitis been associated with primary pulmonary tuberculosis Tuberculosis of the breast is always caused by the bovine bacillus It is the result of lymphatic extension from the glands of the neck or axilla (excepting in the rare cases of general miliary infection) In common with all other forms of surgical tuberculosis caused by the bovine bacillus, it responds readily to treatment by a tubercle vaccine prepared from an attenuated culture of human tubercle bacilli The treatment must, however, be continued for a long period until an active immunity is established

**Hematemesis Without Apparent Lesions**—Monod reports three cases in which gastric or duodenal ulcer was diagnosed but was not found at operation In two cases there was oozing from, perhaps, microscopic erosions In the third case the bleeding was from congestion due to duodenal stenosis The theories advanced to explain this bleeding are discussed disturbance of the normal reaction of the general nervous system on the visceral system, irritation of the sympathetic vasomotor centers in the tractus intermediolateralis of the medulla, or of the nerve ganglions or nerve endings and hepatism

**Antidote for Arsenic, Bismuth and Mercury Poisoning**—Semon draws attention to the value of intravenous injections of from 0 45 to 0 9 gm of sterile solutions of chemically pure sodium thiosulphate in combating the toxic effects of these drugs

### British Journal of Medical Psychology, London

4 1-83 (April 9) 1924

Psychologic Atonia and Asthenia P Janet—p 1
Progress of Individual Psychology A Adler—p 12
Primitive Mentality and Unconscious H G Baynes—p 32

### International Journal of Psycho-Analysis, London

5 125 267 (April) 1924

Infantile Genital Organization of Libido S Freud—p 125
Compensation as Means of Discounting Motive of Repression V Tausk—p 130
Study of Resistance T Reik—p 141
Polyphallic Symbolism and Castration Complex J C Flügel—p 155

### Journal of Oriental Medicine, Dairen, Manchuria

2 1 123 (Feb) 1924

Trematode Disease in Orient W W Cort—p 1
Life Cycle of Ascaris Lumbricoides and Related Forms W W Cort—p 7
Control of Hookworm Disease W W Cort—p 12
Influence of Medicaments on Velocity in Sedimentation of Erythrocytes S Hara—p 21
*Meningeal Cases of Infant Beriberi T Suzuki and S Mori—p 30
*Serous Meningitis in Infants From Lead Poisoning T Suzuki and J Kaneko—p 56
Case of So-called Porokeratosis Primarily Affecting Glans Penis and Mucous Membrane of Mouth H Yanagihara and K Sakamoto—p 67
Constituents of Allium Scorodoprasum L J Kurosawa—p 84
Substances in Rice Polishings Effective in Treating Sick Pigeon Fed Polished Rice T Ikeda—p 90
Schick Tests on School Children K Nakadate—p 102
Pathology of Pigmentation of Bulbar Conjunctiva in Xerosis Epithelialis Conjunctivae S Mori—p 103
Chemistry of Toxin Produced by Welch Fraenkel Bacillus F Hirayama—p 105
Intensive Infiltration of Eosinophil Leukocytes in Uterus of White Rats Fed Homma—p 107
Comparative Study of Hyperglycemia Caused by Caffein Theobromin and Theocin H Senga—p 109
Blood Sugar Content in Several Regions of Vascular System in Experimental Hyperglycemia and Glycosuria H Senga—p 110

**Meningeal Cases of Infant Beriberi**—Suzuki and Mori discuss that type of infant beriberi in which the psychic and nervous symtoms are prevalent They term this the meningeal type of beriberi The fourteen cases analyzed represent about 13 8 per cent of the total number of cases of beriberi observed There were in this group seventy-six cases of the cardiac type seventeen cases of the paralytic type and three cases of the dropsical type In nine of the fourteen cases the disease was recognized in the mother Seven of the cases were seen during the summer months, none occurred during November, December or January Four of the cases were fatal, a mortality of 28 4 per cent The most frequently occurring initial symptoms were emaciation, vomiting dimness of vision, ptosis cough and diarrhea Ptosis was a cardinal symptom in all the cases, dimness of vision and distended abdomen in 92 3 per cent, irregular movements of limbs, palpitation of the heart and enlargement of the liver in 85 2 per cent Analysis of the spinal fluid in this type of beriberi disclosed no sign of inflammation, except a slight trace of globulin, and in one case only there was a slight increase in cells At the necropsy in one case dropsy and stasis of the meninges were found and these the authors believe to be the cause of this type of beriberi

**Serous Meningitis in Infants From Lead Poisoning**—Serous meningitis in infants has long been observed in Japan The causes were widely disputed and no adequate reasons could be assigned It was for the most part, prevalent during the summer months Ordinarily it commenced with vomiting and diarrhea accompanied by greenish-black stools, then followed meningitis and convulsions, about a dozen a day

The mortality was high In 1923, Hirai discovered that the disease was due to lead poisoning from white powders employed by young mothers as a cosmetic for the skin Suzuki and Kaneko report two typical cases of serous meningitis in children which were found to be caused by a face powder containing white lead Some of the white paste which had been used by the mothers of these patients was given in milk to two young puppies After two days they began to vomit and have diarrhea stools One puppy died after seven days, and at the postmortem examination, six bean-sized oval-shaped ulcers were found in the duodenum The other lived one month

## Lancet, London

1 787 834 (April 19) 1924

Foreign Bodies in Bronchi T McCrae—p 787
*Wasting Disorders of Early Infancy L G Parsons—p 793
Diphtheria Outbreaks in Institutions C C Okell, A J Eagleton and R A O'Brien—p 800
Temporary Color Blindness F W Edridge Green—p 801
Two Cases of Congenital Deformities of Hands and Feet N F Smith—p 802
Rhinosporidium Seeberi in Malabar Woman T S Tirumurti—p 802
Splint for Fracture of Femur G Sicks—p 808

**Wasting Disorders of Early Infancy**—The theory and facts of infantile atrophy are summarized by Parsons as follows An infant after thriving normally commences to lose weight for one or more causes, such as insufficient or unsuitable food, diarrhea and vomiting, infection, hygienic surroundings or prenatal influences and constitutional causes Many of these children can and do absorb a larger amount of fat per kilogram of body weight than normal children usually do but a high fat dietary may cause fat indigestion, and with diarrhea, however produced, there is diminished fat absorption Calcium absorption is usually very good if a sufficient supply of fat and calcium is present in the food, indeed, many of these children absorb more calcium per kilogram of body weight than normal children usually do, but in a poor fat or calcium dietary the absorption is not good There is, however, in many cases faulty salt metabolism, which may result in low retention values for calcium Protein metabolism is also faulty The absorption of protein is normal, protein indigestion is a rare condition and has only been seen where there has been a large protein intake over a considerable period The metabolic disturbance is essentially an abnormal salt and protein metabolism, resulting in poor retention values for mineral salts and nitrogen

1 835 886 (April 26) 1924

*Cardiac Efficiency J Meakins—p 835
Foreign Bodies in Bronchi T McCrae—p 838
*Mental States in Alcoholism B Pierce—p 841
*Scarlet Fever Otitis E H R Harries and F B Gilhespy—p 843
Organic Arsenic Compounds in Pulmonary Tuberculosis J Guy and G B Page—p 845
Two New Swab Forceps R L Spittel—p 852
Treatment of Earache T B Layton—p 862

**Cardiac Efficiency**—A general law applicable to all functioning tissues of the body is promulgated by Meakins Briefly stated it is as follows If an organ be performing its work with difficulty, a gradual deterioration will occur if this increased demand be persisted in On the contrary, if the work demanded of a diseased organ be less than its capacity at the moment, a certain degree of restoration of function will ensue This law points to one of the cardinal principles in the treatment of cardiac deficiency When the myocardium is suffering from any abnormal blood supply or mechanical handicap and shows signs of failing under the burden, it should be placed as near as possible in an absolutely resting condition, in order that it may have an opportunity of regaining some of its lost reserve

**Mental States in Alcoholism**—Pierce reviews the alcoholic psychoses, the effect of a single dose of alcohol on inhibition and on instinct He suggests that the primary influence of alcohol is on the vegetative nervous system That it produces a dilatation of the peripheral vessels is well known, and possibly it also acts on the nervous mechanisms involved in the expression of the emotions, including the endocrine organs But where so much is vague and uncertain it is difficult to draw conclusions Until more is known of the physiology of the nervous system and its relation to instinct, it will be impossible to speak with confidence on the mental action of alcohol

**Scarlet Fever Otitis**—Of 100 consecutive cases of ear discharge in elementary school children under 14 years of age, it was found by Gilhespy that in 18 per cent, measles, and in 19 per cent, scarlet fever was stated by the parents to be the starting point of the disability Among 3,684 cases of scarlet fever examined by Harries and Gilhespy, there were 280 cases of otitis The greatest number of cases occurred between the ages of 5 and 10 (7 8 per cent), but of the children up to 5 years of age, 15 4 per cent developed otitis—a percentage incidence twice as high as the 5 to 10 year group, and approximately four times as high as in either of the remaining age groups The percentage incidence of all ages was 7 6 Treatment of the nasopharynx by douching is condemned as productive of more untoward complications than good Surgically, two indications are manifest in dealing with the infection of the middle ear (1) removal of the initial focus of infection—as the adenoids or tonsils, (2) release of the pent up secretions of the middle ear, i e, paracentesis of the drumhead

## Medical Journal of Australia, Sydney

1 251 276 (March 15) 1924

*Acute Cardiac Failure Showing Flutter and Incomplete Right Bundle Branch Block, Recovery W N Horsfall—p 251
*Gastro-Enterostomy Its Mechanism and Production of Pain in Duodenal Ulcer F L Apperly—p 256
Meckel's Diverticulum with Umbilical Polyp E M Fisher—p 263

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Epidemic Encephalitis J B Cleland—p 89
Urology as Applied to Children G Craig—p 91
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Factors of Safety in Prostatectomy S H Harris—p 101
Renal Insufficiency, Its Importance in Genito-Urinary Surgery R J Silverton—p 106
Diagnostic Methods in Hydatid Disease H R Dew and F Williams—p 113
Drainage Tube in Operations on Hydatid Cysts W J S McKay—p 118
Factors in Surgical Treatment of Hydatid Disease B T Zwar—p 119
Hydatid Disease of Tibia A A Lendon—p 122
Postural Influence of Sympathetic Nervous System J I Hunter—p 124
Treatment of Spastic Paralysis N D Royle—p 125

**Acute Cardiac Failure with Right Bundle Branch Block**—A case of extreme heart failure with congestion is described by Horsfall Electrocardiograms showed auricular flutter and an incomplete right bundle block Reasons are advanced in support of this interpretation The patient recovered and reverted to a normal cardiac rhythm The condition of incomplete right bundle block persisted

**Results of Gastro-Enterostomy**—Among patients presenting definite gastric or duodenal ulceration, from whom late reports have been received by Apperly, gastro-enterostomy gave a complete cure in 63 per cent, improvement in 31 per cent and failure in 6 per cent of cases

1 301 326 (March 29) 1924

Glycosuria and Diabetes G E Rennie—p 301
Retrodisplacement of Uterus Treatment H H Schlink—p 307
Medicolegal Note on Cut Throat J A Goldsmid—p 311
*Method of Operating on Strangulated Umbilical Hernia A S Vallack—p 312
Case of Congenital Absence of One Kidney R Southby—p 312

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Gastroptosis L M McKillop—p 154
Arthritis Deformans from Orthopedic Standpoint L G Teece—p 157
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Enlarged Glands of Groin Occurring During One Year on Shipboard W J Carr—p 161
Relation of Inferior Thyroid Artery to Recurrent Nerve C H C Southby—p 162
Anatomy of Procidentia Uteri F A McGuire—p 167

**Herniotomy for Umbilical Hernia**—Vallack excises the sac with the overlying skin, and in repairing the opening overlaps the fascia from above downward

## South African Medical Record, Cape Town

22 113 136 (March 22) 1924

Use of Pneumococcal Vaccine S Lister—p 115
Diet in Relation to Health and Disease in Tropics and Subtropics D M MacRae—p 122

## Archives des Maladies de l'App Digestif, Paris

14 197 292 (March) 1924

*Megaduodenum P Duval—p 197
*Ileus from Gallstone in Intestine Bonnecaze and Le Chaux—p 201
Scirrhus of Small Intestine Baillat—p 218
Brunner's Glands in Stomach L Lamy—p 238

**Megaduodenum**—Duval reviews the literature and concludes that *idiopathic dilatation of the duodenum is possible* The dilatation usually affects also a part of the jejunum

**Ileus from Gallstone in Intestine**—Bonnecaze and Le Chaux observed two patients with ileus from large gallstones obstructing the bowel The obstruction is usually chronic A stool may pass after a cathartic, but the symptoms return A tumor may be felt under general anesthesia The mortality with medical treatment is about 50 or 60 per cent The operative results are about the same It is probable that the prognosis with earlier intervention would be better Multiple obstruction from several stones may occur Diarrhea may cause the death of the patient even after extraction *or expulsion of the stone*

## Archives de Medecine des Enfants, Paris

27 193 256 (April) 1924

*Epidemic Meningitis K Lewkowicz—p 193 Conc'n
Gumma on Humerus and Pseudoparalysis G Mouriquand and M Bernheim—p 228
Meningeal Form of Poliomyelitis T Reh—p *235*
Alimentary Anaphylaxis J Comby—p 239

**Antiserum Treatment of Epidemic Meningitis**—From a series of twenty-five observations, Lewkowicz concludes that the real seat of pernicious cerebrospinal meningitis is not the subarachnoid space, but the ventricle This is obvious from comparison of the anatomic structures Meningococci thrive on epithelium of which they find plenty in the ventricles Beside this, the ventricles contain the richly vascularized choroid plexus, which acts as an infection conveyor On the other hand, the leptomeninges proper do not contain blood vessels Death usually occurs from cerebral edema due to internal hydrocephalus incarcerating the brain In spontaneous healing, the neutrophil leukocytes probably are the main mechanical factors in removing the cocci from the infective focus Basophils and eosinophils probably contribute to the production of specific antibodies, since they are absent in grave cases As a logical consequence of these premises, the antiserum should be injected directly into the posterior horn of the lateral ventricle The results are encouraging He asserts that a walled-off meningococcus meningitis, independent of the ventricles, has never been known Also that the amount of antibodies in the ventricles decides the outcome of the case

## Bulletins de la Societe Medicale des Hôpitaux, Paris

48 469 530 (April 4) 1924

Amaurosis from Carbon Monoxid Poisoning Levi Valensi—p 470
*Gummatous Form of Tuberculosis Lemierre and Kindberg—p 472
Treatment of Epidemic Encephalitis Rathery and Gournay—p 484
Skin Gangrene After Carbon Monoxid Poisoning Idem—p 486
*Complete Heart Block M Leconte—p 488
*Treatment of Chronic Purpura A Ricaldoni and Albo—p 495
Treatment of Asthma Petzetakis—p 502
Stenosis of Pulmonary Artery C Laubry and P Oury—p 507
Serotherapy of Gonococcus Endocarditis Aubertin and Gambillard—p 512
*Liver Kidney Syndromes G Parturier—p 518
Artificial Pneumothorax in Children Armand Delille et al—p 519
Arteries in Diabetics M Labbe and H Lenfantin—p 522
Asynergy in Liver Insufficiency Fiessinger and Walter—p 524

**Gummatous Form of Tuberculosis**—Lemierre and Kindberg describe the development of multiple tuberculous gummas in a young man The affection started with a skin infection on the foot, and spread The pus did not contain tubercle bacilli, which were found only in the tissue The patient died from miliary tuberculosis the fourth month

**Treatment of Epidemic Encephalitis**—Rathery and Gournay confirmed in one case of encephalitis the beneficial effects of intravenous injections of sodium salicylate Daily injections of 2.5 gm in 75 c.c. of water were necessary The drug was without effect when taken by mouth

**Complete Heart Block**—Leconte describes a case of complete auricular-ventricular dissociation in a girl 3 years of age

**Treatment of Chronic Purpura**—Ricaldoni and Albo extirpated the not enlarged spleen in two young women suffering from menorrhagia and purpura, recurring with menstruation The patients recovered

**Liver-Kidney Syndromes**—Parturier found slight albuminuria or granular casts in the urine of 15 per cent of his patients with disturbances of the liver

**Arteries in Diabetics**—Labbé and Lenfantin consider the roentgen-ray examination of peripheral arteries as very useful for revealing a latent arteriosclerosis in diabetics The prognostic significance of *these shadows cast by the arteries* is small

## Comptes Rendus de la Société de Biologie, Paris

90 829 908 (April 4) 1924 Partial Index

*Action of Iron on Tubercle Bacilli Froum and Guillaumie—p 831
*Striated Muscle in Polarized Light J Nageotte—p 832
*Spleen Under Nerve Stimulation Tournade and Chabrol—p 835
Sex Characters of Frogs C Champy—p 838
Honey Test of Liver Function Fiessinger and Walter—p 840
*Intermittent Function of Liver Fiessinger and Walter—p 841
Immunization of Caterpillars N Ishimori—p 843
*PH of Duodenal Contents M Labbe et al—p 845
Cholesterol in Duodenal Contents M Labbe et al—p 847
Anthrax in White Rats I Hababou Sala—p 849
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Micrococcus Arthriticus in Rheumatism Costa and Boyer—p 862
*Precipitin Diagnosis of Typhoid S Costa et al—p 865
Vaccination Against Mouse Typhoid Balteanu and Tudoran—p 867
Susceptibility of Tissues to Experimental Anthrax C Cernatanu and C S Suhatzeanu—p 869
*Spontaneous Trypanosomiasis in Monkeys C Chagas—p 873
Conservation of Rabies Vaccine N Botafogo Gonsalves—p 876
*PH and Action of Bacteriophages J da Costa Cruz—p 878
*Colloids and Immunity G Pacheco—p 879
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PH of Gastric Contents A Norgaard—p 884
*Vaccine Treatment of Typhoid V Bie—p 886*
Chemotherapy of Tuberculosis L E Walbum—p 888
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Metamorphosis of Tadpoles K Sembrat—p 894
Polyembryony in Insects Noskiewicz and Poluszynski—p 896
*The Lymph in Hemoclasis Kmietowicz and Koskowski—p 898
Supernumerary Periclavicular Muscle A Bant—p 900
Acromioclavicular Muscle A Bant—p 902
Cells of Choroid Plexus E B Kalwaryjski—p 903
Clearing Histologic Sections B E Kalwaryjski—p 904
*Prototoxins M de Gedroyc—p 905
Action of Lymph of Insects on Hydrophobia Virus Id—p 906
*Protozoa Protecting Against Bacilli Idem—p 907

**Action of Iron on Growth of Tubercle Bacilli**—Froum and Guillaumie attribute the favorable action of salts of iron on the growth of tubercle bacilli to a better utilization of glycerol

**Striated Muscle in Polarized Light**—Nageotte was able to utilize for polarization sections of muscles stained with Mallory's phosphotungstic hematoxylin when red light was used He discusses the possible sources of error

**Contraction of Spleen Under Nerve Stimulation**—Tournade and Chabrol conclude that the contraction of the spleen following the stimulation of the splanchnic nerve is due both to a direct action of the nerves and to an increase in epinephrin output

**Intermittent Function of Normal Livers**—Fiessinger and Walter examined two-hour specimens of urine from healthy subjects They found a marked variation in the amount of urobilin and biliary acids (the latter determined by stalagmometry) excreted The more concentrated portions contained more of these substances, but the differences were evident even when the specimens were brought up to the same specific gravity When a subject took 150 gm of honey at 8 a m they frequently observed glycosuria at 10 no sugar at noon positive reaction at 4 p m then a negative reaction but renewed glycosuria the next morning at 8 a m They believe that the liver in healthy subjects has an intermittent

functional rhythm with intervening periods of actual insufficiency

**Pn of Duodenal Contents**—Labbe, de Moor and Nepveux determined the hydrogen ion concentration in the bile obtained by the Meltzer-Lyon technic It was lowered in infected cases This lowering seemed to be due to the production of organic acids by the micro-organisms

**Precipitin Diagnosis of Typhoid**—Costa, Boyer and Jaur mixed three-weeks old filtered bouillon cultures of typhoid bacilli with gelatin Serum from twenty typhoid patients produced a precipitate on the surface of the gelatin in eighteen to twenty-four hours All other serums were negative

**Spontaneous Trypanosomiasis in Monkeys**—Chagas found *Trypanosoma cruzi* in some monkeys from Para He produced with this trypanosoma a typical myocarditis in young dogs

**Pn and Action of Bacteriophages**—Da Costa Cruz produced a reversible flocculation of Flexner bacteriophages in mediums with a $p_H = 6.09$ Stronger acids ($p_H = 2.9$) destroy the bacteriophage action He does not believe that bacteriophages are living organisms

**Colloids and Immunity**—Pacheco injected guinea-pigs under the skin of the abdomen with a weak diphtheria toxin and simultaneously injected colloidal metals under the skin of the chest The colloid metal salt lowered the natural immunity of the animals

**Influence of Lymph in Hemoclasis**—Kmietowicz and Koskowski made a fistula in the thoracic duct in dogs, and thus diverted the lymph Then they induced a hemoclastic crisis he fistula prevented the appearance of lymphocytosis and of lowering of the refraction index of the blood

**Prototoxins**—Gedroyc obtained a specific thermostable toxic and lytic serum from rabbits inoculated with flagellate protozoa

**Protozoa Protecting Against Bacilli**—Gedroyc found that paramecium destroyed the virus of hydrophobia in twenty-four hours An injection of the mixture in rabbits had protective value

## Encéphale, Paris

**19** 145 208 (March) 1924

*Dementia Praecox H Claude et al—p 145
The Delusion of Feeling Influenced A Ceillier—p 152
Psychopathology and General Pathology A Maeder—p 163
Simplified Test for Loss of Neutrality Balance G E Schroeder—p 178
Arrest of Acute Delirium After Large Dose of Silver Salt H Damaye—p 184

**Analysis and Delimitation of Dementia Praecox**—Claude, Borel and Robin emphasize the fact that all forms of schizophrenia are not identical with true dementia praecox Three stages can usually be observed in the development of the disease first, Kretschmer's schizoid predisposition—not a pathologic condition, then, after certain exciting causes, comes a period of schizomania—that is, losing touch with reality by living an introverted, autistic life This is followed by a "dislocation" of psychic functions, in which an entire maladaptation of the individual occurs This stage may be considered real dementia with total disintegration of the intellectual, emotional and volitional spheres It should, however, be differentiated from the preceding stage of schizomania in which only the higher synthetic functions are lost The course may be rapidly progressive from the first, or the third stage may not develop until late in life, or never

## Gazette Hebd des Sciences Médicales, Bordeaux

**45** 225 240 (April 13) 1924

*Bronchial Spirochetosis E Cassaet et al—p 226
Recent Research on Beriberi C Massias—p 228

**Bronchial Spirochetosis**—Cassaet, Bonnin and Guenard conclude from the lack of any general reaction to the bronchial spirochetosis that treatment will have to be directly local In the case described all general treatment has failed to date, including arsenicals, antimony, iodids and balsams Aside from the cough, all the symptomatology is in the spit cup The thin transparent, reddish sputum contains very few erythrocytes, there is hemoglobinoptysis rather than hemoptysis There seems to be an intense hemolytic action, and the spirochetes swarming in the sputum are liable to be all destroyed by the same lysant action if there is any delay in examining the sputum A fusiform bacillus was found constantly with the Castellani spirochetes, but in smaller numbers

## Gynécologie et Obstétrique, Paris

**9** 253 332 (March) 1924

Diagnostic Value of Mucous Uterine Polyps L Tixier and L Michon—p 253
Pregnancy After Myomectomy Goullioud—p 268
*Case of Uterus Didelphys C Dambrin and J Bernardbeig—p 292

**Case of Uterus Didelphys**—Dambrin and Bernardbeig describe a peculiar case of double uterus in one side of which there was a fibroma, while the other part was pregnant The recent neuropathic symptoms, tachycardia, tremor, disordered movements, emotional instability and loss of weight called for intervention, and the fibromatous uterus of the didelphys twin organ was removed This operation was performed in the third month of pregnancy It proved effectual, since the childbirth occurred normally at full term

## Journal d'Urologie Médicale et Chirurgicale, Paris

**17** 177 272 (March) 1924

Urethroprostatitis A Hogge—p 177
*Ambard's Laws N C Paulesco et al—p 192
*The Ambard Coefficient E Teposu—p 204
*Cell Inclusions in Urethritis J Martin and M Romieu—p 210
Scrap of Shell in Bladder for Eight Years P Santy and P Wertheimer—p 214
Calculus Causing Renal Hematuria for Ten Years Lanzillotta—p 218

**The Ambard Formula is Based on Incorrect Premises**—Paulesco, Marza and Trifu present evidence to prove that the output of urea in the urine is directly proportional to the concentration of the urea in the blood and varies with this It is not influenced by the concentration of the urea in the urine This depends solely on the amount of water available in the organism

**Nephrectomy Based on the Ambard Formula**—Teposu extols the reliability of the Ambard formula as a guide for nephrectomy, relating two instances in which this was the only guide available The tuberculous or cystic kidney was removed on the basis of the favorable Ambard coefficient when all other signs testified that the case was absolutely inoperable, but clinical recovery promptly followed the nephrectomy

**Cell Inclusions in Gonococcus Urethritis**—Martin and Romieu reproduce the microscopic findings showing from seven to twenty-four round bodies in the pavement cells found in the morning drop in a case of gonorrhea never quite cured during the three years since infection The inclusions seem to be of a keratohyaline nature

## Lyon Chirurgical

**21** 117 256 (April) 1924

*Surgery of Cancer of the Esophagus L Berard and P Mallet Guy—p 127
Thoracoplasty in Bronchiectasis P Santy and M Guilleminet—p 161
Acrocyanosis Improved by Sympathectomy E Ledoux—p 182
Ablation of the Geniculate Ganglion R Leriche and P Wertheimer—p 185

**Cancer of Thoracic Esophagus**—Berard and Mallet Guy review the main surgical technics for removal of a cancer in the thoracic esophagus, summarizing the experiences to date Five of the seventy patients have been saved by the operation in the last thirty-five years In twenty cases the condition was found inoperable and the attempt had to be abandoned The mortality even in the last ten years has been 85 per cent The main dangers are complications liable to occur from shock or from intrapleural infection later In the five successful cases, the upper stump was sutured to the skin and the lower stump invaginated in the stomach, while every precaution was taken to avoid injury or infection of the pleural serosa A preliminary gastrostomy and an opening into the esophagus in the neck, to divert the saliva, reduce the discomfort and the dangers of the intervention

## Nourrisson, Paris

12 73 152 (March) 1924

*Import of Skin Tuberculin Reaction A. B Marfan —p 73
Menstruation and Lactation A Γ Canelli —p 92
Congenital Stenosis of Duodenum Marfan et al —p 101
Malformations of the Heart H Lemaire and G Blechmann —p 107
Protection in Early Infancy A B Marfan —p 126
Hydrocele in Infant with Inherited Syphilis G Sales and P Vallery Radot —p 138

**The Skin Tuberculin Reaction and Immunity to Tuberculosis**—It has been claimed that when an infant displays a positive cutireaction, this proves that the child is in no danger if left with his tuberculous mother But, according to Marfan, conditions are not so simple as this All we know is that in Europe almost every adult human being is a bearer of tubercle bacilli If these infect the organism in exceedingly small amounts and only at long intervals, after the second year of life immunity is liable to develop But if large amounts of bacteria are infecting the organism at short intervals, the first intimate contact with tuberculosis having occurred in the individual not sooner than his fifteenth year, then the tubercle bacilli will not behave as harmless parasites but as virulent pathogenic agents Marfan reiterates in conclusion that the first two years of life are the period in which it is most important that sources of contagion should be avoided, as during this period the acquisition of immunity is more difficult than at any other time of life

## Scalpel, Brussels

77 461 492 (April 12) 1924

*Vaccine Treatment of Gonorrhea R Duhot —p 461
Clinical Electrocardiography L Stienon —p 468 Conc n
Asthma J Konings.—p 480

**Vaccine Treatment of Acute Gonorrhea**—Duhot's fifteen years' experience with antigonococcus vaccines has convinced him that they must be administered by some more propitious method than the technic hitherto If vaccines are heated much they are liable to lose their antigen properties, and the only effect from them then is that of protein therapy in general The gonococcus has an affinity not only for the urethral mucosa but for the kidneys, prostate, synovia, tubes, ovaries and other organs, and he assumes that it has an affinity likewise for the skin Application of the vaccine directly into the skin seems to enhance the immunizing action, and he has been much impressed with the prompt arrest of all symptoms in the patients treated with this cutivaccination, as he calls it He introduces the vaccine into the epidermis, with a very fine needle, running it in horizontally in a fold of the skin of the buttocks pinched between thumb and forefinger As much as 3 c c can be injected in this way, but he gives 0 5 c c the first day, 1 c c the third, 2 c c the fifth and continues with 2 c c every third day to a total of six of these cutivaccinations In four cases this treatment was begun the second day after the first appearance of the discharge The usual local and internal treatment was applied in addition The gonococci had disappeared from the secretions the sixth day In three women with infection of up to a year's standing, ovariectomy was being considered for the painful gonococcus ovaritis, but all recovered under the cutivaccination treatment

## Riforma Medica, Naples

10 337 360 (April 14) 1924

Case of Cutis Verticis Gyrata B Sparacio —p 337
Tuberculosis Agglutinins in Animals E Cioffi —p 339
Hemoptysis and Vagosympathetic Tonus A De Martini —p 341

**Tuberculosis Agglutinins in Animals**—Cioffi inoculated rabbits with living tubercle bacilli Subsequent or previous parenteral injections of milk increased the agglutinin titer of these animals He produced agglutinins in other rabbits with injections of dead bacilli In this series the protein shock failed to restore the antibodies lost after splenectomy

**Hemoptysis and Vagosympathetic Tonus**—Martini applied the usual tests of the vegetative nervous system (oculocardiac reflex, epinephrin pilocarpin, eserin and atropin) in patients with hemoptysis He found in the majority signs of vagotonia Atropin seemed to have, in some cases, a preventive and curative action on the hemoptysis

## Rivista di Clinica Pediatrica, Florence

22 217 288 (April) 1924

*Posture Reflexes in Infants Z L Magni —p 217
Anthropometry in Children G Del Duca —p 229
"Etiology of Scarlet Fever ' G Caronia —p 241
Biometry in Pediatrics G Frontali —p 250

**Posture Reflexes in Infants**—Magni studied the tonic reflex of the anterior tibialis muscle in infants It is one of the most distinct posture reflexes (tonic reflexes produced by passive changes of the position of a joint) When the foot is flexed dorsally and at the same time rotated inward, the tendon of the anterior tibialis becomes apparent and keeps the foot in this position for a short time after the foot has been left free He found the reflex in almost every healthy subject over one year of age It was absent in poliomyelitis, postdiphtheria paralysis and hemiplegia It was exaggerated in Parkinson's and Wilson's disease and in meningitis He explains its absence in the new-born as an evidence of the mesocephalic origin of posture reflexes The psychic condition of the child has a marked influence on the reflex response

## Brazil-Medico, Rio de Janeiro

1 139 154 (March 15) 1924

*Cephaloplegia Armando Tavares —p 139
Surgery in France in 1921 1922 Guelfucci —p 141
Ophthalmic Herpes Zoster E de Campos —p 147

**Cephaloplegia**—Tavares encountered last year one case of the syndrome described by Figueira It occurred during a small epidemic of acute poliomyelitis The infant of 13 months presented a catarrhal affection of the upper air passages, with fever, sudden weakness and extreme flaccid paralysis of the muscles of the neck The reflexes were normal, and the whole clinical picture subsided in four days He considers it an abortive form of epidemic poliomyelitis

1 155 166 (March 22) 1924

*Epithelioma of Lid and Orbit Heitor Praguer Froes —p 155
*The Central and Peripheral Syndromes with Aortic Incompetency J Barbosa —p 158 Begun p 114
Chronic Ciliary Blepharitis E de Campos —p 160

**Epithelioma of the Orbit**—The process began with a small "wart at the inner commissure of the left eye It rapidly increased after attempts at self-cauterization, and intense neuralgic pains and impairment of vision in the other eye justified the excision of the epithelioma The woman's pregnancy was not interrupted The tumor showed no signs of malignancy

**Aortic Insufficiency**—Barbosa concludes this long study of insufficiency of the aortic valve according as the artery, the valve itself or the myocardium is the main factor The aortic incompetency from acute myocarditis has a favorable prognosis Before assuming regurgitation into the aorta we must exclude dilatation of the aorta, pulmonary incompetency and Potain's pulmonary heart murmur He insists that every intracardiac murmur has some organic basis

## Semana Médica, Buenos Aires

1 539 578 (March 27) 1924

*Blindness from Sinusitis E B Demaria —p 539
Rachitic Deformity of the Legs Carlos Lagos Garcia —p 545
Congenital Nystagmus E. Dellepiane Rawson and E Adrogue.—p 567
Works on Plasmogenesis in 1923 A L Herrera —p 568

**Blindness from Sinusitis**—The acute axial optic neuritis (retrobulbar) in the woman of 48 whose case is described by Demaria was traced to an inflammatory process in the ethmoidal and sphenoidal sinuses The onset of the sinusitis had been stormy with high fever and the diagnosis had been influenza These symptoms soon subsided, leaving transient deafness but twelve days later pain in the left orbit developed with loss of vision which soon became complete in both eyes Little if any benefit was derived from medical measures nor from an operation on the sphenoidal sinuses but recovery was soon complete after the ethmoidal sinuses had been cleared out, in addition, seven weeks after the first symptoms and nineteen days after the blindness had become total

1 579 630 (April 3) 1924

*Radiotherapy of Exophthalmic Goiter J Gutierrez —p 579
*The Prognosis in Angina Pectoris F C Arrillaga.—p 601

Standardization of Foods for Diabetics D. J. Rojo.—p. 607
*Parenteral Protein Therapy I. P. Costa.—p. 608
Poliomyelitis Antiserum E. Etchegoin.—p. 611
Child Welfare Work in Buenos Aires in 1923 S. Oliva.—p. 613

**Radiotherapy of Exophthalmic Goiter**.—Gutierrez remarks that it improves the goiter and the exophthalmos but they do not subside entirely under it, but it cured the hyperthyroidism more or less completely in his thirty-five cases described in which from four to twenty exposures had been made. The pulse dropped from 132 to 96 and the weight increased in one case as the exophthalmos, goiter and nervousness improved, twenty exposures were required in this severe case, but only seven in another case with even more complete cure. The longer the hyperthyroidism has lasted, the longer the course of treatment. In one of his cases the supposed stormy reaction to the irradiation proved to be symptoms from mercurial poisoning.

**The Prognosis in Angina Pectoris**.—Arrillaga regards as important for the prognosis a pronounced difference between the systolic and the diastolic arterial pressures. This indicates a better outlook than when the difference is slight, whether the pressure as a whole is high or low. In a case cited the figures were 11 and 10, and his grave prognosis was justified by the woman's death that night. In another case the figures had been 14 and 12, but under medication and hygiene the difference became 5 instead of 2, and this man, aged 60, is now leading an active life. The age, the pulse (alternans) and the condition of the aorta and the peripheral vessels have to be taken into account, and the electrocardiogram is instructive. With the latter, the prognosis is of course graver with a negative T wave, especially when associated with atypical Q. R. S. waves.

**Parenteral Protein Therapy**.—Costa has applied this method of treatment in thirteen different types of pathologic conditions, and states that great improvement was realized in 58 per cent. of his eighty-six cases. An abnormally intense reaction in four cases was explained by a tenia.

## Archiv fur Dermatologie und Syphilis, Berlin

147: 1-160 (April 24) 1924

*Heredity in Origin of Nevus H. W. Siemens.—p. 1
*Skin Changes of Thyroid Origin Bogroff and Krupnikoff.—p. 61
*Sarcoid of Boeck and Lupus Pernio H. Martenstein.—p. 70
*Arsphenamin and the Liver A. Kartamischew.—p. 100
*Abortive Treatment of Syphilis R. Mutschler.—p. 107
Arsphenamin Resistant Syphilis S. Silberstein.—p. 116
Blue Nevus H. Stranz.—p. 131
*Mercurial Eruption E. Hoffert.—p. 135
Warts and Pointed Condyloma Waelsch and Habermann.—p. 144

**Heredity in Origin of Nevus**.—Siemens expatiates on the importance of twins for the study of heredity, both familial and racial. He has investigated conditions in regard to nevus in forty-five pairs of twins of the same sex and twenty-three pairs of different sex. He restricts the term nevus to stable circumscribed changes in the skin and adjoining mucosa, which are asymmetrical and of unknown origin.

**Skin Changes of Thyroid Origin**.—An illustrated description is given of a case resembling the few on record of "myxomatous degeneration of the corium." The thyroid origin of the atypical myxedema was established by the improvement under thyroid treatment, the swelling and redness of the skin in the face and elsewhere subsiding and the general health improving. The patient was a woman of 45 with five healthy children, and the cutaneous dysthyroisis was of fifteen years' standing.

**Sarcoid of Boeck and Lupus Pernio**.—Martenstein presents evidence from eight cases of Boeck's sarcoid and ten of lupus beginning as a chilblain that each is a special form of reaction to tuberculous infection.

**Influence of Arsphenamin on Liver Functioning**.—Kartamischew states that the injury of the liver from arsphenamin is manifested even in [illegible] after the intake by the appearance of [illegible] sc[illegible]

**Abortive Treatment of Syphilis**.—Mutschler's experience with fifty-seven cases of primary syphilis has confirmed the almost certainty of successfully aborting the infection when one or two vigorous courses are given. The interval since infection must not be over four weeks at most, the regional lymph glands of normal size. With positive lumbar puncture findings and Wassermann reaction, the case cannot be regarded as in the abortive phase, hence the Wassermann test should be applied at every injection at first, and the spinal fluid examined by the second or third week.

**Mercurial Eruption**.—Hoffert discusses the exanthem recurring always in the same place. He describes a case in which the stretching of the skin (pregnancy) induced a predisposition to the mercurial eruption.

## Archiv fur Verdauungskrankheiten, Berlin

33: 1-116 (April) 1924

*Gastroscopy in Diagnosis H. Elsner.—p. 1
Vegetative System and Digestion H. Böwing.—p. 23
*Gastric Ulcer J. Wertheimer.—p. 60
*Chromodiagnosis of the Stomach N. Hirabayashi.—p. 71
*Lactase in Adult Intestine A. V. Marx.—p. 77
*"Long Bacilli" of Feces R. F. Weiss.—p. 87
*Pathogenesis of Gastric Ulcer L. Jarno.—p. 101
*The Wolff-Junghans Reaction in Gastric Cancer M. Riabow and W. Smotrow.—p. 105

**Gastroscopy in Diagnosis**.—Elsner believes that every modification of his tube, especially Sternberg's gastroscope, is dangerous. Gastroscopy should be used only when other methods have failed. He believes that erosions of the mucosa account for the "hyperacidity pains."

**Gastric Ulcer**.—Wertheimer asserts that the upright posture is the real cause of the frequency and chronicity of gastric ulcers. The strained ligaments relax in the prone position, and the spontaneous and pressure pain in ulcer is less pronounced. He recommends to such patients this ventral position for half an hour after every meal. It works also as a preventive measure.

**Chromodiagnosis of the Stomach**.—Hirabayashi found that the velocity of excretion of neutral red by the stomach depends on the intensity of secretion as a whole. Local lesions of the mucosa delay and lower the excretion of the stain.

**Lactase in Adult Intestine**.—Marx examined stools of adults for the lactose-splitting ferment. Its presence could always be demonstrated when the extracts were incubated for twenty hours.

**"Long Bacilli" of Feces**.—Weiss studied the long iodophil bacilli which are present in great numbers in the stools in fermentative dyspepsia. They indicate a severer process than the equally iodophil clostridia. These bacilli—which he calls "streptobacillus intestinalis"—are morphologically entirely different from the Boas-Oppler bacilli which may be found occasionally in the stool with cancer of the stomach. They are much larger and stain brown homogeneously with Lugol's solution, while the finer Boas-Oppler bacilli contain only granules of iodophil substance. They cannot be cultivated in the sterilized content from cancerous stomachs.

**Pathogenesis of Gastric Ulcer**.—Jarno exposed the fluid expressed in Buchner's apparatus from pieces of hog's stomach to the action of pepsin and hydrochloric acid. The proteins were quickly digested, while the whole pieces of stomach resisted. The fluid expressed from the stomach was not coagulated by heat. He believes that a colliquative necrosis in the stomach is the beginning of an ulcer.

**The Wolff-Junghans Reaction in Gastric Cancer**.—Riabow and Smotrow estimated the amount of proteins in gastric contents with the Wolff-Junghans method. The reaction is useful in diagnosis only in the absence of free hydrochloric acid, blood and bile. Small amounts of proteins in achylia exclude and very high ones prove cancer.

## [illegible]chiv fur klinische Medizin, Leipzig

[illegible]: 1-112 (April) 1924

[illegible]ure W. H. Jansen et al.—p. 1
H. Jansen.—p. 14
H. Ullmann.—p. 19
Reinwein.—p. 37
and F. Brannigk.—p. 45

Thoracic Leads in Electrocardiography R Ackermann —p 61
Insulin and Respiration of Tissues S Buchner and E Grafe —p 67
*Respiration After Physical Exertion E Schott —p 86

**Dynamics of the Blood Pressure**—Jansen, Tams and Achelis confirm in animals and man the main regulation of blood pressure by the organs controlled by the splanchnic nerve Its compensatory action is impaired in patients with hypertension

**Heredity of Vegetative Syndromes**—Ullmann publishes family histories of asthmatics with apparent hereditary transmission

**Urine in Severe Tuberculosis**—Reinwein isolated from the urine of patients with advanced pulmonary tuberculosis, histidin, methylguanidin and an alkaline compound of the formula $C_1H_{33}N_3O_4$, which he provisionally calls julin

**Respiration After Exertion**—Schott observed a Cheyne-Stokes type of breathing after exertion It was absent in physically well trained men It is an indicator of the condition of the respiratory metabolism

## Deutsche medizinische Wochenschrift, Berlin

**50** 487 526 (April 18) 1924

Insulin Matthes —p 487
Mechanism of Action of Insulin E Grafe —p 489
*The Action of Insulin T Brugsch —p 491
Insulin and Theory of Diabetes Magnus Levy —p 494
Preparation and Standardization of Insulin E Laqueur —p 496
Insulin in General Practice P F Richter —p 499
*Insulin Poisoning A Bornstein and K Holm —p 503
Significance of Ions H Handovsky —p 503
*Gastric Achylia and Cancer W Zweig —p 505
*Surgery and Nervous Stomach Affections B O Pribram —p 506
Lumbar Puncture in Early Syphilis A Goldscheider and A Wittgenstein —p 508
Vagotonia and Sympathicotonia W H Veil —p 511
Sedimentation Test in Gynecology F Cardauns —p 513
Premature Expulsion of Placenta Silberbusch —p 514
*Dangers of Wireless Telegraphy Axmann —p 514
Kant's Relations to Medicine T Ziehen —p 515
Kant's Relations to Natural Science Kutzner —p 517
Present Status of Treatment of Anemia Klieneberger —p 523

**The Theory of the Action of Insulin**—Brugsch demonstrates with Meyerhof's theory the reason why the respiratory analysis fails to decide the problem of the action of insulin The cleavage of glycogen down to sugar and lactic acid is anoxybiontic, the change of fat into carbohydrate and the partial processes cannot be detected with mere determination of the respiratory quotient He promulgates his own theory based on the experiments of his co-workers He believes that the same oxidative-synthetic process, leading from lactic acid over hexosediphosphoric acid to glycogen, takes place not only in the muscles, but also in the liver Insulin enhances it as well as the formation of fat from sugar, and blocks the sugar formation from fat (over beta-oxybutyric acid) The diabetic disturbance starts in the splitting of sugar into lactic acid (first phase) and reaches also into the second synthetic phase Insulin controls the whole process

**Insulin Poisoning**—Bornstein and Holm describe the symptoms of severe insulin poisoning of a healthy man They used ten English units of insulin which had produced no grave effects in two previous tests, four and eight days before The blood sugar was over 0 1 per cent during the whole day

**Gastric Achylia and Cancer**—Zweig observed eight verified cases of development of cancer in middle aged patients whom he had been treating for ten to fifteen years for gastric achylia The cancer progressed rapidly He points to Konjetzny's finding of hyperplasia in such stomachs, and to the possibility of an abnormal digestion causing the formation of Freund and Kammer's unsaturated dicarbonic acid compounds

**Surgery and Nervous Stomach Affections**—Pribram writes about his surgical experiences with neurotic affections of the stomach Feeling of fullness or pains in the epigastrium are sometimes due to a reflex from the appendix or an epigastric hernia Lawen's paravertebral anesthesia stops the pains for a short while He saw no good results from alcohol injections into these nerves

**Dangers of Wireless Telegraphy**—Axmann observed in the personnel of a wireless telegraph station a loss of hair on the side of the head which was exposed for months to the apparatus He believes that the electronic tubes acted like a weak roentgen tube

## Deutsche Zeitschrift fur Chirurgie, Leipzig

**184** 289 423 (March) 1924

Microscopic Findings in Sarcoma After Irradiation Grubauer —p 289
*Causes of Growth Deformities K Braeunig —p 304
*Intrathoracic Gravity Abscesses Chaoul and Lange —p 348
Causes of Torsion of Internal Organs G Schaetz —p 373
Bilateral Os Trigonum Harttung —p 382
*Paralysis of Trapezius Muscle R Eden —p 387
Operative Treatment of Perforated Gastric Ulcer Feller —p 398
Cervical Portion of Sympathetic System L Drüner —p 409
*Resection in Hirschsprung's Disease E Huber —p 417

**The Causes of Growth Deformities**—Braeunig found that for the genesis of true growth deformities of the adolescent period, a constitutional predisposition, which manifests itself as the eunuchoidism of puberty, is a necessary prerequisite Determining factors of this constitutional anomaly are an undue growth in the length of the bones and a constitutional weakness of the muscles The inciting cause may be some abnormal, unequal weight bearing by certain bones This in turn affects the growth of the lower limbs owing to the weakness of the musculature and delayed ossification in certain areas

**Intrathoracic Gravitation Abscesses**—The unusually good results (86 per cent of recoveries) in Rollier's series of cases and the strong endorsement of Bier have brought a purely conservative form of treatment again into the foreground But most writers report bad results from conservative treatment In Lange's personal series of fifteen patients three have died and one is moribund Not one has been cured In addition to the usual conservative measures, the abscesses were punctured, iodoform-glycerin was injected, and roentgen irradiation was employed

**Treatment of Paralysis of the Trapezius Muscle by Myoplasty**—Eden describes his method of muscle transplantation successfully applied in two cases of paralysis of the trapezius muscle following operative injury of the spinal accessory nerve The earning capacity of both patients was fully restored

**Total Resection of Colon in Hirschsprung's Disease**—In Huber's patient a boy, aged 10, the whole large intestine was involved and the entire colon was removed The lower ileum was united with the upper rectum The result was excellent, no harmful sequels occurring During the fifteen months since the boy has developed normally, apparently not inferior to his mates in any respect

## Klinische Wochenschrift, Berlin

**3** 657 704 (April 15) 1924

Traumatic Injury and Cancer H Durck —p 657
*Death of the Heart E P Pick —p 662
*Respiration of Tissues G Ahlgren —p 667
*Tuberculosis Problems J Igersheimer —p 668
*Action of Iron on Erythrocytes M J Roessingh —p 673
*Diagnosis of Pancreas Disease H Simon —p 674
*Hypoglycemic Reaction H Lax and G Petenyi —p 678
*Blood Group Specific Antibodies F Schiff —p 679
*Blood Group Precipitins F Schiff —p 679
Blood Pressure in Pregnancy M Samuel —p 680
*Humoral Transmission of Nerve Action O Loewi —p 680
*Action of Insulin A Bornstein —p 681
*Thrombosis After Childbirth H H Schmid —p 682
Vocational Advising C Coerper —p 685
Action of Atropin on Intestine K Schubel —p 687

**The First and Last to Die of all the Elements in the Heart**—Pick observed with Ishihara contractions of the Purkinje fibers from mammalian hearts many hours after death He believes that they are the last surviving part of the heart Except in case of direct injuries or poisoning of the conducting system death is never due to the conducting apparatus itself it is the transmission of the impulses from it to the heart muscle which suffers first Whenever the heart action is restored by means of Locke's or preferably buffered fluids the resuscitation occurs by restoring this transmission of impulses Oxygen is a very important element for this Addition of glucose with insulin to the fluid was so successful in his experiments that he suggests the use of the combination of oxygen glucose and insulin in failing hearts

**Respiration of Tissues**—Ahlgren found that insulin accelerates the reduction of methylene blue by the muscles of pancreatectomized frogs. When it was added with glucose the reaction was accelerated up to threefold. Addition of levulose, galactose and various organic acids, including aceto-acetic and beta-oxybutyric acids, did not increase the action of insulin. Epinephrin, thyroxin, pituitary extracts and various alkaloids enhanced the respiration of the tissues. Nevertheless, epinephrin was an antagonist to insulin when used simultaneously. Pituitary extract acted as a synergist.

**Tuberculosis Problems**—Igersheimer saw no iritis in animals after corneal inoculation of tubercle bacilli. He found pulmonary tuberculosis in about 20 per cent of the patients who had scrofulosis—especially phlyctenae—when young. A pronounced tuberculin reaction accompanied usually a tendency to recurring phlyctenae. It was in no relation to the severity of the eye affection.

**Iron Treatment and Oxygen Consumption of Erythrocytes**—Roessingh gave large doses of iron compounds (corresponding to 2.25 gm. of iron daily) to various patients. In almost every case the erythrocytes acquired or increased the capacity to destroy oxygen. As a rule, the red corpuscles of mammals do not reduce oxyhemoglobin except in anemias not due to cancer. He explains the experiments as evidence of a stimulation of the bone marrow and proof of the usefulness of iron therapy.

**Diagnosis of Pancreas Disease**—Simon found an atoxyl-resistant lipase in human serum only in some affections of the pancreas and pernicious anemia. It was also present in hemolyzed erythrocytes. The reaction was negative in diabetes.

**Hypoglycemic Reaction**—Lax and Petenyi observed remarkable hypoglycemia in twenty-nine patients with tetany, in the second phase after injections of epinephrin. The blood sugar in seven patients was as low as 0.05 to 0.06 per cent., in three, 0.03 to 0.04 per cent. and in one, 0.028 per cent. Thus the hypoglycemia alone does not explain the insulin intoxication.

**Blood Group Specific Antibodies**—Schiff points to the analogy between the blood group antigens and Forssmann's heterogenetic antigen (the same antigen present in sheep's blood, and kidneys of guinea-pigs and horses). Both kinds of antigen appear in an interrupted series (groups in the same species, Forssmann's in widely different animals), and the individuals or species which have not the antigen have, as a rule, the corresponding antibody in their serum. He found in some of the hemolytic antisheep serums from rabbits, agglutinins for Jansky's human Groups II and IV (receptor A and A + B). Rabbits injected with human blood of Group II produce a serum which hemolyzes human and sheep blood. The human group specific receptor A is, to a large extent, identical with the species-specific antigen from sheep erythrocytes, and with the antigen contained in the organs of guinea-pigs and horses. Some rabbits do not produce the group-specific antibody when injected with sheep blood. It is probable that these animals have the receptor A, themselves, just as they have the B receptor, as a rule. The serum from one rabbit immunized with human corpuscles of Group II (receptor A) strongly agglutinated the corpuscles of Groups II and IV, and weakly, Groups I and III. It precipitated with the serum of Groups II and IV in a dilution of 1:100, while serums from the other groups produced no change.

**Humoral Transmission of Nerve Action**—Loewi found that the accelerator nerve requires a stronger stimulus than the vagus. Therefore, he obtains exclusively vagus action with the perfusing fluid from those hearts in which he uses slight stimuli.

**Action of Insulin**—Bornstein found with Griesbach an increase of the blood sugar in the perfusing fluid of a liver after insulin. It inhibited, however, the mobilizing action of epinephrin. He did not find always an increase of the respiratory quotient after insulin, and believes that it regulates only the formation of sugar, not its destruction.

**Thrombosis After Childbirth**—Schmid considers the weak heart and lack of movements as the main cause of thrombosis after childbirth and operation. The preventive treatment is self-evident. Round garters should not be worn in pregnancy. The first signs of thrombosis of the femoral vein are pains. The perimalleolar edema comes later. Thrombosis of the hypogastric vein causes edema of one buttock and the lumbar region. Cystoscopy reveals the stasis in one half of the bladder, and hematuria may occur. Thrombosis of the ovarian vein does not necessarily cause any symptoms. Even the temperature may remain normal.

## Medizinische Klinik, Berlin

**20** 511-554 (April 20) 1924

Glycemic Dyscrasias. R. Schmidt.—p. 511
*Chronic Appendicitis. L. Kuttner.—p. 516
Treatment After Operations on the Stomach. G. Singer.—p. 520
Malignant Goiter. F. Kraus.—p. 523
*Tardy Syphilitic Arthritis. H. Schlesinger.—p. 524
*Perception of Right and Left Sides. C. Elze.—p. 529
Treatment of Acute Leukemia. G. Wodtke.—p. 530
*Periarterial Sympathectomy. K. Brandenburg.—p. 532
*Leukocytosis After "Psychic Meal." F. Glaser.—p. 535
*Nutrition and Action of Insulin. E. Abderhalden.—p. 537
Progressive Paralysis Questions. K. Singer.—p. 538
Recent Works on Ophthalmology. C. Adam.—p. 540
Legal Aspects of Practice. F. Thomas.—p. 550

**Chronic Appendicitis**—Kuttner measures the temperature in the axilla and the rectum after a walk. The difference was greater (0.8 C.) in many of his patients with chronic appendicitis. Slight increases in temperature may mislead the diagnosis to assumption of a latent tuberculosis. If the roentgen contrast suspension remains in the appendix after the bowel has been emptied (following 2 tablespoonfuls of castor oil), it is an important sign. If the diagnosis is uncertain, he regards conservative treatment as preferable to an operation.

**Tardy Syphilitic Arthritis**—Schlesinger considers affections of joints as one of the frequent manifestations of syphilis. It is very important to note that high fever may accompany the process. There is hardly any form of acute or chronic arthritis which may not be simulated by syphilis. The history of the patients, periostitis and other manifestations of syphilis give important diagnostic hints. The Wassermann reaction is frequently negative, especially in the serum. The prognosis is the best of all forms of chronic arthritis if the etiology is thought of and specific treatment, beginning with mercury, is instituted. Local applications of mercurial plaster mitigate the pains.

**Perception of Right and Left Sides**—Elze believes that the ability to differentiate the right and left side is a primary function of the brain, which is frequently lacking in a greater or less degree. Certain superior men (Helmholtz) and many university teachers are "right-left blind" and have to make a conscious effort to distinguish between the right and left sides.

**Periarterial Sympathectomy**—Brandenburg reports the results of a collective inquiry among a number of German surgeons. It seems that the majority of patients were benefited for a while by the periarterial sympathectomy. Permanent good results were rare. Patients with sclerotic vessels require especially careful management.

**Leukocytosis After "Psychic Meal"**—Glaser found after a sham meal the same changes of leukocytes as after real food intake. Both depend equally on changes of the tonus of the vegetative nervous system.

**Nutrition and Action of Insulin**—Abderhalden and Wertheimer found that frogs and pigeons are extremely resistant to insulin. Rats and mice fed chiefly on fat and proteins reacted moderately to doses which were threefold lethal for the controls fed with carbohydrates or the usual food. They advise similar investigations in diabetics.

## Monatsschrift fur Geb. und Gynakologie, Berlin

**66** 1-78 (April) 1924

Respiratory Gas Interchanges in the Pregnant. E. Klaften.—p. 1
*Turgidization of the Placenta. H. Heidler.—p. 11
*Chronic Gonorrhea in Women. H. Naujoks.—p. 31
Experimental Hermaphroditism. F. Unterberger.—p. 41
Recent Works on the Blood from Gynecologic Standpoint. J. Streche.—p. 48

**Turgidization of the Placenta**—Heidler has compiled records of 180 cases in which a fluid was injected into the retained placenta through the umbilical vein. He adds 100 personally observed cases to the list, including 33 in which there was no hemorrhage. His verdict is that the procedure is harmless but the effect is dubious, and it is not wise to waste time on it if there is hemorrhage. In the 67 cases with hemorrhage a tendency to hemostatic action was apparent in only two instances, and even this was dubious.

**Gonorrhea in the Female**—Naujoks combined vaccine therapy with local silver nitrate treatment in twenty-seven cases, with recovery of 70.4 per cent. He used what he calls "fresh vaccine," that is, derived from any gonococcus focus in other persons, and used within four to six weeks. The injection was intravenous and was repeated at intervals of from five to eight days. The reaction was always stormy but transient. The course required from fifteen to thirty-two weeks. His experience with 144 cases of gonorrhea in the female has convinced him that this combined treatment represents progress.

## Munchener medizinische Wochenschrift, Munich

71 459-490 (April 11) 1924

*Primary Specific Allergy. H. Kammerer.—p. 459
Nomenclature in Tuberculosis Immunity. H. Selter.—p. 462
Gastroscopy. Kahnenfuhrer.—p. 465
*Treatment of Rachitic Deformities. C. R. H. Rabl.—p. 468
Differential Import of Heat Coagulating Point of Serums. J. K. Mayr and H. Hofstadt.—p. 470
Affections of Eyes and Teeth. Hensen.—p. 470
Serpiginous Ulcer of the Cornea. W. Eigel.—p. 472
Ascarid in Abdominal Cavity. A. Kortzeborn.—p. 473
Atropin Poisoning. Grassmann.—p. 475
Simplification of Endoscopic Apparatus. Praetorius.—p. 475
Subtrochanter Osteotomy. F. Hahn.—p. 476
Pulmonary Tuberculosis in General Practice. K. H. Blumel.—p. 476

**Primary Specific Allergy**—Kammerer uses the term allergy for all the abnormal reactions to foreign substances. Many organs may be affected. Hives, Quincke's edema, exanthems and inflammations of skin, asthma coryza, stomach troubles and diarrhea from a reaction of mucous membranes, collapse, shock, the hemoclastic crisis and, perhaps, migraine and epilepsy might be manifestations of allergy. There are many differences between these conditions and anaphylaxis. A constitutional and frequently inherited factor has to be assumed, even when sensitization has occurred (as in asthma from pneumococci after pneumonia), because the majority of subjects do not develop such symptoms. The tuberculin reaction parallels, to a great extent, a similar reaction to salt solution. He believes that both are essentially vasomotor phenomena conditioned by the irritability of the vegetative nervous system. Skin tests in hysteria and neuroses are subject to great errors because of the psychic influence. He believes that toxic amins act differently according to the inherited constitution of the protein molecules of the body.

**Correction of Rachitic Curvature Without Operation**—Rabl found that the reaction of the tissue fluid is of decisive significance for calcium deposits. He treats old deformities from rickets in children—without operation—by softening the bones by an acidosis. The child gets, daily, 0.15-0.25 gm. ammonium chlorid per kilogram of body weight. The salt is preferably given with sugar (15 parts of ammonium chlorid, 180 parts saccharose, and distilled water to 300 parts). At the same time he induces venous stasis in the affected extremities for about twenty hours daily. This treatment probably affects other bones (spine) to a slight degree and, therefore, the child has to lie in bed. The bones get soft in a few weeks, and can then be bent to the proper shape. After application of a cast in the corrected position, the treatment has to endeavor to increase the calcium content (ultraviolet rays, phosphorus cod liver oil, fresh vegetables, fruits and a little calcium lactate). The hardening of the bones takes from four to six weeks. A positive calcium balance also shortens the healing time in fractures.

## Zentralblatt fur Chirurgie, Leipzig

51 709-774 (April 5) 1924

Laurentius Heister, Surgeon, 1683-1758. V. Schmieden.—p. 710
Origin, Retrogression and Prophylaxis of Peritoneal Adhesions. E. Payr.—p. 715
Reconstruction of Common Bile Duct. T. Naegeli.—p. 727
*Conservative Treatment of Old Luxation of Elbow. Weil.—p. 728
A Rare Form of Mesentery in Region of Lower Ileum and Ascending Colon. B. Oelschlägel.—p. 730
*Suprapubic Prostatectomy. G. Mertens.—p. 732
*Improvement of Phimosis Operation. Sievers.—p. 733
Sartorius Muscle to Close Hernial Opening. Kutscha Lissberg.—p. 738

**Conservative Treatment of Old Luxations of the Elbow**—Weil describes and recommends the conservative treatment that he has employed in three cases of backward dislocation of the elbow. The results were as good if not better than the outcome from the average surgical intervention.

**Immediate Suture of the Bladder After Suprapubic Prostatectomy**—Mertens reports two further cases in which he sutured the bladder at once. In the one case, the patient aged 76, died from renal insufficiency the eighth day following operation. The bladder suture had healed by first intention. In the second case, the patient, aged 73, was dismissed on the nineteenth day after the operation, with continence fully restored and normal micturition. Bladder and abdominal sutures healed by first intention. The suprapubic prostatectomy is performed under intraspinal anesthesia, with complete primary closure of the bladder, no artificial drainage, and usually no retention catheter. Mertens thinks the advantages of this "ideal" method are so apparent and the disadvantages so slight that it deserves to be tested on a large series of cases.

**Cosmetic Improvement of Phimosis Operation**—Sievers describes a method of plastic surgery which avoids shortening the prepuce unduly and thus exposing the glans penis.

## Zentralblatt fur innere Medizin, Leipzig

45 289-320 (April 19) 1924

*Sex Predisposition in Diphtheria. H. Gunther.—p. 290

**Sex Predisposition in Diphtheria**—Gunther's figures show a larger percentage of diphtheria in female than in male infants in the first half year of life. From the fifth year onward, there is a progressive increase in the diphtheria morbidity in females. In spite of this, the mortality of boys is higher because of the greater frequency of laryngeal diphtheria.

## Casopis lekaruv ceskych, Prague

63 617-652 (April 19) 1924

Ovarian and Uterine Cycle. J. Trapl.—p. 617. Cont'd
Treatment of Surgical Tuberculosis. Zahradnicky.—p. 621. Cont'd
*Hemolytic Immune Serums. Kredba.—p. 626
Carbonated Baths. M. Wassermann.—p. 631. Cont'd
Ureter Calculi. J. Rejsek.—p. 636. Cont'n
*Treatment of Paralysis of Serratus Magnus. E. Haim.—p. 643

**Hemolytic Immune Serums**—Kredba mixed strong hemolytic serums with normal or weak hemolytic serums from rabbits. The titer of the resulting mixture was much closer to that of the original strong serum than expected. He believes that the weak serum activates some preformed function of the strong serum.

**Treatment of Paralysis of Serratus Anterior**—Haim sutured the middle portion of the large pectoral muscle to the angle of the scapula in a case of paralysis of the serratus magnus muscle.

## Grèce Medicale, Athens

26 1-32 (Feb.) 1924

*The Fight Against Epidemics in Greece. M. A. Gautier.—p. 1
*The Neisser-Wechsberg Phenomenon. G. S. Joannides.—p. 26
*Tuberculosis and Hemorrhagic Purpura. A. Pratsicas.—p. 28

**The Fight Against Epidemics in Greece**—This is the official detailed report of the Epidemics Commission of the League of Nations which had charge of the more than a million refugees expelled from Asia Minor and Thrace starting its work in December, 1922. The refugees and the populace were vaccinated against smallpox, typhoid, cholera, plague and dysentery as epidemics threatened. In the Athens district with 117,588 refugees, the mortality after the first two months was reduced to the average annual mortality of the region. The government of Greece accomplished prodigies in transportation and distribution of the refugees, and the mildness of the climate aided private and public charity so that the escaped the fate of the Poles. Gautier saw driven out of

Russia in 1921-1922, with its hecatomb of human lives In the Salonica district, however, the death rate was 37 per thousand among the refugees, and malaria, tuberculosis and dysentery are increasing A total of 93,243 were vaccinated in 1923 against plague, 26,880 against dysentery, and 655,580 against typhoid, paratyphoid and cholera in one vaccine, and 488,381 with a similar polyvalent vaccine (Tetra B)

**The Neisser-Wechsberg Phenomenon**—Joannides asserts that this phenomenon is neither specific to serums nor unique nor paradoxic A given substance induces different effects according to the amount used Lysis of the cellular antigens is realized by the coagulating action of the specific antibody and the lysant action of the complement There is an optimal amount of the specific antibody with which lysis is most pronounced It grows less with amounts above or below this He cites as an example the precipitation of globulins in distilled water, while they dissolve in 9 per thousand sodium chlorid solution, and if more sodium chlorid is added, to saturation, precipitation of the globulins occurs anew

**Tuberculosis in Relation to Hemorrhagic Purpura**—Necropsy in Pratsicas' four cases of typical hemorrhagic purpura revealed the lesions of miliary tuberculosis Tuberculous infection should always be suggested, he affirms, in every hemorrhagic syndrome, whatever its nature

## Mededeel v d Burg Geneesk Dienst, Batavia

1 114, 1924 English Edition

*Neoplasms in the Lungs Oudendal—p 1
*Metabolic Experiments on Rats B C P Jansen and Donath—p 25
*Vitamin Content of Indian Foodstuffs Idem—p 46
*The Ludlowi Mosquito and Its Extermination Ter Poorten—p 99

**Proliferation of Epithelium and Formation of Cysts in the Lungs**—Oudendal gives twenty-one colored illustrations of the findings in five cases They suggest an embryonal origin Among the thirty cases of cysts in the lungs he has found recorded, two were in twin sisters

**Metabolic Experiments on Rats**—Jansen and Donath declare that the omnivorous habits of rats and the composition of their urine resemble those of man more closely than those of other animals, so they are peculiarly fitted for research on metabolism They extol the advantages of their improved diet cage which is fitted below with a sloping chute of narrow mesh brass netting or nitrogen-free filter paper which has been soaked in a solution of oxalic acid and dried Down this chute the rat's feces roll and drop into a dish below The urine drips through into another dish below or is caught by the filter paper The urine receptacle below is lined with filter paper soaked in sodium picrate, and every droplet of the rat urine leaves a permanent red stain on this paper They tabulate the metabolic findings with thirty-nine different articles of food, tested for months on young white rats in separate cages The outcome indicates that the proteins of soy beans, and particularly the fermented product made from boiled soy beans, called *tempe kedele,* are peculiarly effectual in supplying the deficient protein in a rice diet They seem to be more valuable in this respect than the proteins of meat and dried fish Milk ranks high in this respect For the deficiency of vitamin A in the rice diet, fresh fruit, especially bananas, fresh or boiled vegetables and duck eggs rank highest They assert that an average of one banana a day will most probably avert all vitamin deficiency disturbances from a diet consisting mainly of rice In one group of sixteen rats (between rats No 657 and No 867) that had developed xerophthalmia on a diet of unpolished rice, the eyes returned to normal after addition of dried and boiled leaves of the pumpkin plant This effect was realized with only 1 or 2 per cent of the pumpkin dry substance

**The Ludlowi Mosquito**—Study of 1,500 female anopheles of the ludlowi type has enabled Ter Poorten to draw the composite picture of this which he calls "the most dangerous of our malaria transmitters" It seems to prefer the seacoast atmosphere but breeds indiscriminately in brackish and fresh waters and even fecal smelling waters The proximity of man seems to be the main point, and it can cover a distance up to 2 kilometers

## Acta Medica Scandinavica, Stockholm

60 291 489 (April 15) 1924

*Urobilin E B Salen—p 291
Intermediate Chlorin Metabolism P Iversen—p 359
Regulation of Neutrality in Acidosis Norvig and Larsen—p 372
*Action of Serum on Bacilli I Wulff—p 393
Infiltration of Subcutaneous Tissue G Wiltrup—p 432
*Morgan Theory of Heredity G Bonnier—p 471
Spontaneous Pneumothorax J Mollerstrom—p 477

**Urobilin**—Salen found an increase of urobilin in the urine of healthy persons about five hours after meals A very strong reaction at the time does not mean much, while a weak reaction in the morning urine must be considered pathologic

**Action of Serum on Bacteria**—Wulff studied the action of normal plasma and serum from man and animals on various germs Gram-positive micro-organisms (staphylococci, streptococci and diphtheria bacilli) were resistant

**Morgan Theory of Heredity**—Bonnier emphasizes the scant value of research of heredity of diseases in man before we have complete charts of distribution of normal gens in the human chromosomes (Morgan's theory)

## Norsk Magazin for Lægevidenskaben, Christiania

85 273 336 (April) 1924

*Chronic Glycosuria H T Høst—p 273
*Physiologic Actions of Insulin H C Geelmuyden—p 285
Atypical Intussusception Two Cases E Platou—p 292
Lung Abscess from Artificial Tooth Plate in Esophagus, Recovery After Operation K Nicolaysen—p 296
*Enuresis and Spina Bifida A J A Arnesen—p 299

**Chronic Glycosuria**—Høst has had seven cases of chronic glycosuria under observation for several years in which the sugar content of the blood keeps within normal range The threshold for excretion of sugar is abnormally low, but the condition cannot be regarded as pathologic and no dietetic restrictions are required On the other hand, in a group of three other cases—otherwise similar and all free from symptoms—the glycemia runs up high under tolerance tests He is inclined to consider these as a mild form of diabetes, and advise supervision of the diet No instance is known of the threshold glycosuria type developing into true diabetes, but there is danger of this in the hyperglycemia type The reason why the test hyperglycemia in these chronic glycosuria cases has escaped detection hitherto is because it occurs very rapidly after the intake of the test 50 gm of glucose, and passes off rapidly, the sugar content of the blood returning to its former figure in two hours In both groups, the glycosuria was a casual discovery as the subjects were apparently in absolute health According to the height of the threshold, the glycosuria was continuous or intermittent, and the intensity was dependent on the intake of carbohydrates

**Physiologic Actions of Insulin**—Geelmuyden presents arguments to sustain the assumption that insulin reduces the sugar and glycogen to fat Also that the symptoms from an overdose of insulin cannot be due to the hypoglycemia itself, these symptoms may appear before the sugar content of the blood has dropped He thinks that some other action of the insulin is responsible for them This may possibly be that the insulin binds the sugar and glycogen so firmly that they cannot be mobilized but are transformed to fat both in the liver and other organs The organs suffer from the lack of the carbohydrate thus transformed, and, consequently, administration of sugar restores their functioning, and the symptoms that we have been ascribing to the hypoglycemia subside They subside too promptly to be due to the action of insulin, this takes time to act Epinephrin combats the action of insulin, arrests this transformation of sugar into fat, and promotes oxidation of the fat into sugar

**Enuresis and Spina Bifida**—Arnesen found spina bifida in 53.6 per cent of twenty-eight cases of enuresis, and urges search for vertebral anomalies in all cases of rebellious enuresis Laminectomy of the gaping fifth lumbar vertebra in one young man with inveterate enuresis has apparently cured him there has been no recurrence during the more than three months to date

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## CALCIFICATION OF THE PERICARDIUM

### REPORT OF CASE DISCOVERED ROENTGENOLOGICALLY DURING LIFE *


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It is only within recent years that calcification of the pericardium has been of any particular clinical interest For many years it existed mainly as a pathologic curiosity, insusceptible to diagnosis during life, and discoverable only during a postmortem examination Because of these circumstances, interest in this condition was centered largely about its morbid anatomy Therefore, in spite of several studies of this condition, especially those of Diemer,[1] Jones [2] and Muller,[3] there has existed no general agreement as to its etiology, clinical significance or its relation to the other pathologic processes frequently associated with it, particularly its relation to changes in the other serous cavities and in the liver

The advent of the roentgen ray and the improvement in its use has changed these circumstances Following the suggestion of Diemer [1] in 1889 and of Simmonds [4] in 1908, that these cases might be discovered during life by means of the roentgen ray, Schwartz,[5] in 1910, reported the first case of calcified pericardium discovered roentgenologically in the living subject Since that time, other cases have been reported and the condition has become one of clinical interest The possibility of true diagnosis during life arouses the hope that the opportunity to study these cases clinically will result in discovering the true cause and nature of this interesting condition It is with the idea of stimulating such studies that we report the following case

#### REPORT OF CASE

*History*—Mrs C G, a housewife, aged 62, came to the outpatient department of the University Hospital April 17, 1923, complaining of "heart trouble" She stated that the onset of her symptoms had occurred about two years previous At that time, she began to notice shortness of breath on exertion palpitation and weakness There had been slight swelling of the feet at times There was present, however no cough, no gastric symptoms and no nocturia She had noticed no irregularity of the heart beats There had been practically no increase in the severity of the symptoms since their onset

The patient's past history was exceptionally clear Her general health had been excellent, and, except for measles and pertussis as a child, she had had no acute infectious illness At about the age of 40, however, while the patient was pregnant, she had had an enlargement of the glands on both sides of the neck These had given no symptoms, but broke, discharged and finally healed Five years before, she had fallen and struck her left chest in the region of the heart, this place had continued sore for three months

She had been married twice, the first time at the age of 22, the second time at the age of 41 The first husband had died at the age of 28 of "hemorrhage from the nose," the second was living and well By her first husband she had had four pregnancies The first child had died at birth, another had died of tuberculosis at the age of 20 The other two were living and well By her second husband, she had had two children, both of whom were living and well

Her family history showed that her father died of "pneumonia" at the age of 39, and her mother of a general breakdown at 76 One sister had died of carcinoma of the stomach, two brothers, of acute infectious diseases, and one of apoplexy at 50, one brother living had stomach trouble

*Examination*—The patient was well developed, and there was evidence of some loss of weight Slight cyanosis of the mucous membranes and slight orthopnea were present Except for the loss of all teeth and some diffuse redness of the throat, the examination of the head was negative

The neck showed marked distention of the jugular veins, which were also exceedingly hard and cordlike No abnormal pulsations were seen

The chest was well formed, and expansion was active and equal on the two sides The lung findings were normal except for an occasional, diffuse and inconstant squeaking rale Examination of the heart revealed the important findings The apex impulse was not visible or palpable, nor were there any abnormal pulsations No thrills were felt Percussion revealed that the heart was enlarged to the left considerably beyond the midclavicular line There was no enlargement to the right, but the retromanubrial dulness seemed increased in width Auscultation revealed that the sounds at the apex were faint and weak, and there were heard occasional extrasystoles The second pulmonic sound seemed slightly accentuated at the base Over the entire precordium, but most marked at the apex and aortic area, was heard a systolic murmur seeming to have two components, a rather blowing element common to mitral systolic murmurs and a "closer," high-pitched, musical, or at times scratchy, sound which partook partly of the character of a friction rub There was some sclerosis of the peripheral vessels, and the blood pressure was systolic, 140, diastolic, 100

The abdomen was lax and without spasm or tenderness There were no masses to be seen or felt The spleen was not felt but there was a questionable enlargement of the liver

Examination of extremities was negative, and edema was definitely absent The reflexes were normal The urine contained a trace of albumin, but was otherwise normal

A diagnosis was made of chronic myocarditis with early cardiac failure, and an electrocardiogram, roentgenogram of the chest and an orthodiagram were requested The electro-

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1 Diemer F Ueber Kalkablagerungen an den Serosen Hauten des Herze Ztschr f Heilk 20 257 1899

2 Jones A F Calcification of the Pericardium Tr Path Soc London 52 181 1901

3 Muller F F Pericarditische Verkalkungen Fortschr a d Geb d Rontgenstrahlen 25 231 1918

4 Simmonds Ueber den Nachweis von Verkalkungen am Herzen durch das Rontgenverfahren Fortschr a d Geb d Rontgenstrahlen 20 371 1908

5 Schwartz, G Wien klin Wchnschr 23 1823 (Dec 15) 1910

cardiogram showed auricular extrasystoles, an inversion of the T wave, and myocardial changes The roentgenologic examination revealed the findings given below

The patient was referred to the roentgen-ray department for fluoroscopic studies of the heart and an orthodiagraphic tracing During the preliminary fluoroscopic examination, the following very interesting condition was noted The normal hazy outline of the ventricular border of the heart, the apex, and the lower margin, which is usually obliterated by the shadow of the diaphragm, was replaced by a relatively thin, radiopaque shadow of lime density, which the observer inferred to be calcification of the pericardium

The cardiac movements, as seen on the fluoroscopic screen, seemed to be impaired very slightly, if at all On closer examination of the heart and great vessels with rotation to several positions, the shadows of lime density presented a patchy appearance rather than a uniformly dense radiopacity Furthermore, the calcareous deposits were confined to the ventricular areas, as far as could be noted at the time of the fluoroscopic examination, the auricular area did not appear to be involved The most prominent area of calcification occupied a position on the posterior and inferior surface of the left aspect of the cardiac outline, and from this area irregular projections of lime salt deposits were scattered over the ventricular pericardium

Fig 1—Left oblique Arrows indicate area of calcification

The examination of the entire percardial sac was necessarily incomplete, as the right border of the heart was not distinctly seen, owing to the collection of some fluid in the right pleural cavity, which extended in a curvilinear direction from about the junction of the right auricle and the great vessels to the level of the seventh rib in the midaxillary line Careful examination of the great vessels showed no definite deviation from the normal condition for a person of the patient's age

In order that a satisfactory record of the case might be preserved, the usual stereoscopic set of chest films was taken with the patient in the standing position, in addition, two oblique exposures were made, one with the left breast toward the film and one with the right breast toward the film The illustrations show the condition that has been described as existing at the time of fluoroscopy

Examination of the stereoscopic chest films showed no other apparent pathologic changes in the lungs or in the remaining thoracic structures Subsequent examination revealed very little change in the cardiac and pulmonary findings

It was our opinion that the orthodiagraphic tracing showed evidence of a moderate degree of cardiac enlargement

*Treatment*—The patient did not wish to enter the hospital, so she was sent to her home with advice as to the restriction of activities, and in regard to rest and diet She was advised to take small doses of digitalis

*Second Admission*—She returned to the outpatient department, July 6, complaining of fluttering of the heart, shortness of breath, bloating and general weakness She stated that, after leaving the hospital, she felt well until six weeks before her second visit, July 6 At that time, she had begun to notice bloating of the abdomen and swelling of the feet Later, distress and fulness after eating were noticed, together with increasing weakness and shortness of breath

On examination, the following changes in her physical state were noted The orthopnea appeared to be more marked, but there was no increase in the cyanosis, and the jugular veins were not more distended The thorax was asymmetrical, the right side being more prominent than the left, and there was diminished expansion on the right There was diminished tactile fremitus over the right base The left lung was hyperresonant, while the right varied from dull to flat from the fourth rib to the base Voice sounds were harsh over the left lung, while over the right there were decreased breath sounds and voice sounds from the fourth rib down There was no change in the heart findings, except that the extrasystoles seemed more frequent The abdomen was full, with some bulging in the upper right quadrant Signs of free fluid were present There was slight pitting edema of both legs It was thought that there had been an increase in cardiac failure, with the development of a hydrothorax and an ascites, and the patient, advised to enter the hospital, did so

The day following admission, an abdominal paracentesis was done and 2,930 c c of a straw colored, slightly cloudy fluid was obtained Examination of the fluid revealed specific gravity, 1 020, reaction, acid, albumin, 30 gm per liter, sediment, —, 300 red blood cells, 120 white blood cells, per low power field Guinea-pig inoculation of the fluid yielded negative results Following the removal of the fluid, the liver was palpable 4 cm below the costal border

The patient remained in the hospital eight days and improved considerably with rest and the paracentesis During her stay, the amount of albumin, hyaline casts and granular casts in the urine varied from none to a moderate amount, and there was present a moderate number of white and of red blood cells The specific gravity ranged from 1 006 to 1 029 The hemoglobin was 75 per cent , the red cells, 3,640,000, and the white cells, 7,400 The differential count was normal A basal metabolism determination was made, which was minus 16 per cent The electrocardiogram again revealed auricular extrasystoles, with a P-R interval of 0 2 second Roentgenograms showed essentially the same pictures as before The patient was discharged considerably improved, with the instructions previously received

Following her discharge from the hospital in July, she felt well for about four months Then the abdomen began to enlarge again, and, in the course of four or five weeks, caused her considerable distress In addition, she developed a non productive cough and some swelling of the legs

*Third Admission*—She was readmitted Dec 17, 1923, when examination revealed much the same findings as it had at the time of her previous admission, plus the finding of auricular fibrillation, which was later confirmed by electrocardiogram An abdominal paracentesis was performed, and 2,900 c c of a clear yellow fluid (specific gravity, 1 015, albumin, 32 gm per liter, cells, 720 per c c , 90 per cent lymphocytes), having the mixed characteristics of a transudate and an exudate, was removed The patient was digitalized and discharged feeling much improved

*Fourth Admission*—She returned Feb 29, 1924 She stated that she felt somewhat worse than she had at the times of her previous admissions The physical findings were essentially the same as before There was considerable abdominal distension and a considerable amount of free fluid The heart was normal in rate and fairly regular, but the electrocardiogram showed it to be still fibrillating The rate of the circus rhythm was higher, possibly owing to the use of digitalis The kidneys were able to concentrate the urine satisfactorily, although there was a trace of albumin and a few hyaline and granular casts The abdomen was tapped with some difficulty (adhesions?), and 4,320 cc of straw colored fluid (specific gravity, 1 016, albumin, 12 gm per liter) was removed The pleural cavity (right) was tapped for the first time, and 850 cc of straw colored, slightly cloudy fluid was removed The specific gravity was 1 010, albumin, 20 gm per liter, there were a few cells, mostly large lymphocytes After the removal of the pleural fluid, the patient was examined with the fluoroscope, and plates were made, but apparently because of the great thickness of the pleura no increase in detail over that secured by the previous plates was obtained The patient was discharged, March 4, feeling much improved

COMMENT

With the development of the possibility of diagnosing calcification of the pericardium during life, interest in this condition centers mainly about the question of its etiology and its relation to changes in the other serous cavities and in the liver that accompany it in the great majority of cases So closely associated are these two questions that they are to all intents and purposes one, and as such will be considered in the following discussion, which is based on a study of this and 104 reported cases, ninety-four of which were studied at necropsy[6]

Calcification, in general, occurs in dead or dying tissue and in the products of inflammation due to any cause Such calcifications are found frequently and accidentally at necropsy in any tissue, and are generally not sufficiently constant or characteristic to be of any particular clinical interest

There exists, however, a group of cases in which there is a definite and well marked calcification of the pericardium associated with quite constant changes in other tissues During life, these cases exhibit a characteristic clinical syndrome, which, with the pathologic changes, warrant their inclusion in a definite disease group

To summarize the findings briefly, these cases show pathologically an obliterative pericarditis with calcification, frequently so marked as to deserve the term "armored heart" In addition, there is usually found chronic inflammation of the pleura or peritoneum or both, and all grades of changes in the liver, from simple chronic passive congestion to true atrophic cirrhosis, including perihepatitis and occasional perisplenitis The heart, as a rule, shows either no abnormal findings or else degenerative changes in the muscle Occasionally, the calcification extends into the heart muscle itself Clinically, these cases exhibit characteristically, in the early stages, the picture of cirrhosis of the liver, marked and frequently recurring ascites without edema of the legs, enlarged liver with little or no jaundice, a sense of fulness in the upper abdomen, digestive disturbances and, occasionally, pain To these may be added, although they usually appear late in the course of the disease, the signs and symptoms of cardiac failure, as a rule, without evidence of any particular valvular disease The course of the disease is characteristically slow, insidious and intermittent

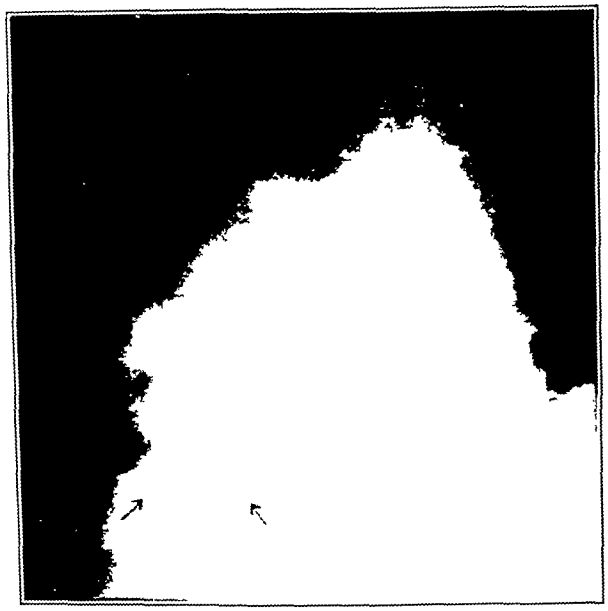

Fig 2—Right oblique Arrows indicate area of calcification

In spite of the recent revival in the interests and inquiry directed toward the etiology, there has been no general agreement as to the cause of this condition It would seem, however, from a study of the reported cases, that the greater number have a common etiology Included with them and to a certain extent, confusing and obscuring the essentially single etiology of the group, are a certain number of what might be called accidental" cases, in which the etiology differs from the usual one

Consideration will first be given to these 'accidental" cases Some of them are undoubtedly rheumatic in origin, or at least the condition has been found associated with a rheumatic history and undeniable rheumatic cardiac lesions In Winkelstein's[7] case an active rheumatic pancarditis existed along with calcification of the pericardium Such cases are also differentiated clinically from the majority in a manner to be pointed out later Wells[8] concluded that a large number of these cases were due to pneumococcus infections because (1) purulent lesions are most likely to result in calcareous changes, (2) a tuberculous infection sufficient to cause a purulent exudate would leave definite changes (and these are frequently lacking), (3) the most common lesion that causes purulent exudate, and clears up leaving no characteristic changes is the lesion due to pneumococcus It is possible that the pneumo-

6 In addition to the cases referred to specifically in the text the cases reported by the following authors have been reviewed
Alessio F Case of Adhesive Pericarditis with Calcification Gazz d osp 42 623 (July 3) 1921
Bennion J M A Case of Adhesive Mediastinopericarditis Brit M J 1 916 1906
Bruen E T Extensive Calcareous Deposit in the Pericardium Tr Path Soc Philadelphia 11 155 1887 1889
Douglas M and Yate A G A Case of Calcification of the Pericardium J Path & Bacteriol 18 129 1913 1914
Fenn C T Calcareous Degeneration of the Pericardium Chicago M J 25 321 1896
Lucas J J S Pericardial Calcification Brit M J 2 1404 1907
Mitchell J H Calcification of the Pericardium Tr Chicago Path Soc 8 109 1909 1912
Oberndorfer Munchen med Wchnschr 53 2083 (Oct) 1906
Pellas e M Pericardite calcifiante avec signes de retrecissement mitral Lyon med 99 509 1908
Simpson F O Calcification of the Pericardium J Ment Sc 48 502 1902
St George Proc New York Path Soc 21 184 (Oct Dec) 1921
Herrick J B Pericarditic Pseudocirrhosis of the Liver Tr Chicago Path Soc 5 71 1901 1903

7 Winkelstein A Calcification of the Pericardium P & A New York Path Soc 21 181 1921

8 Wells H G The Pathology of the Healed Fibrous Lesions the Pericardium Am J M Sc 123 241 (Feb) 1902

coccus may be the responsible agent in an occasional case, but a study of a large number of reported cases leads one to conclude that it is neither a principal nor an important cause The absence of such a probable causal factor in the history, the slow and intermittent but progressive course of the disease, and, in particular, the clinical differences in the symptom complex referred to in the case of the rheumatic type seem opposed to the acceptance of such a view The same objections apply to the possibility of a nonhemolytic streptococcus acting in an important etiologic rôle, suggested by Muller [3]

There remains a majority of the cases, in which the etiology is obscure Clinically and pathologically, they exhibit quite constantly the characteristic picture previously outlined The ascites and the liver changes are striking as initial symptoms, and the cases presenting such symptoms have frequently been considered typical cases of cirrhosis of the liver The pericardial involvement is frequently masked, and its symptoms are latent In a series of fifty-nine cases reported by Jones,[4] mention of the pericardial involvement was made but once before necropsy Characteristically, edema of the legs is absent, or is present early and disappears, not to reappear until late in the course of the disease Cardiac symptoms are not prominent early and, of the series that we studied, heart symptoms were the marked presenting symptoms in only twenty-five cases This generalization applies, however, only to the earlier stages of the disease, in the later stages, symptoms of heart failure are present in practically every case In accordance with the absence of the cardiac symptoms is the absence of any signs of organic heart disease, particularly the signs of valvular disease Frequently, examination of the heart has given essentially normal findings, although, with the development of the disease, there are increasing signs of myocardial failure Occasionally, the signs and symptoms of pleural effusion and inflammation are present, although, as in the case of the pericardium, the pleural involvement is often masked The pathologic changes are the same as those already mentioned, but the associated inflammatory changes in the other two serous membranes and the changes in the heart are particularly striking

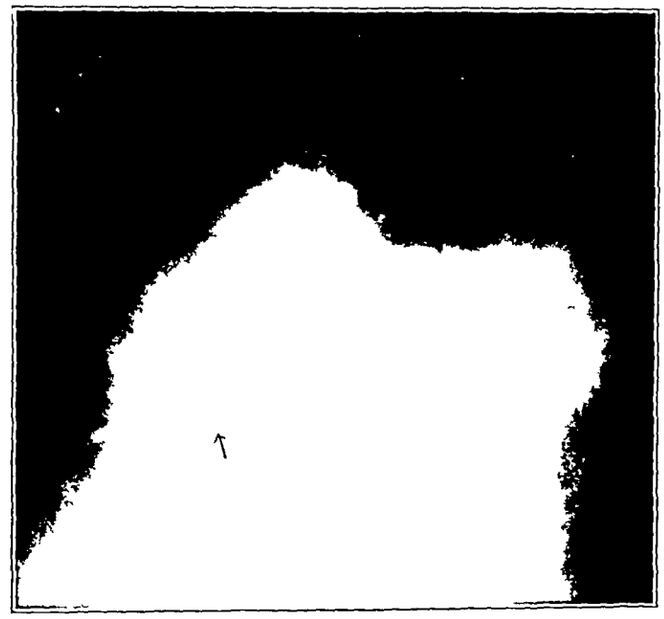

Fig 3—Anterior posterior Arrows indicate area of calcification

It is by the presence of these symptoms, physical findings and pathologic changes that these cases are distinguished from those of the "accidental" group Thus, in the rheumatic type, a history of rheumatic infection is frequently obtained The heart gives evidence of rheumatic valvular disease, heart symptoms occur early, and are marked Of the twenty-three cases in the foregoing series presenting marked cardiac symptoms, thirteen were rheumatic Edema of the legs is an important symptom, concomitant with the ascites and lasting throughout the course of the disease As would naturally be expected, the age of the patients tends to average much lower in the rheumatic type Thus, in the cases that we have studied, the average age of patients apparently rheumatic (fifteen patients) was 28, while the average age of the nonrheumatic group (sixty-one patients) was 49, forty-four patients or 72 per cent of that group being over 40

The similarity of symptoms of this larger group (nonaccidental) to the syndrome described by Pick [9] is so striking as scarcely to call for comment However, a brief consideration of the feature of the condition described by Pick may serve to throw some light on the etiology of these cases of calcified pericardium Although the symptoms were not unknown to earlier writers, the report of Pick, in 1896, first focused attention on a group of cases of obliterative pericarditis, distinguished not by the signs of cardiac failure and pericardial involvement, but by a pronounced ascites, little or no edema of the legs, abdominal symptoms, and changes in the liver that simulated cirrhosis of the liver Pick, himself, suggested the term pericardial pseudocirrhosis of the liver for these cases, and assumed that the changes found were the result of cirrhosis of the liver caused by heart failure Early objections were made to such an explanation, and, without entering at this time into a discussion of the various factors concerned, it may be said that, at present, such a condition is generally considered to be the result of a polyserositis in which the peritoneal changes and symptoms are the most in evidence, and that the changes in the liver are the result of the disease process, and are not primarily the cause of the presenting signs and symptoms In this group are included the cases of "Zuckergussleber" described by Curschmann,[10] in which the perihepatitis is particularly marked Finally, it is generally considered that this condition is caused by the tubercle bacillus even in the absence of typical tubercle formation The similarity of the cases of calcified pericardium to this group of cases is even more striking when one considers that many of the reported cases of Pick's disease, or polyserositis, are, in addition, cases of calcified pericardium as well, notably in the case of Kelly [11] and in two of Pick's own cases

The conclusion would seem to be, then, that the cases in which a syndrome of calcification of the pericardium is present are, in reality, cases of polyserositis, and the condition is caused by the tubercle bacillus, this conclusion is strengthened by the fact that some of these cases have been definitely tuberculous, with tubercle formation and caseation, while others have been associated

9 Pick Ueber chronischer, unter dem Bilde der Lebercirrhose verlaufende Pericarditis (pericarditische Pseudolebercirrhose), Ztschr f klin Med **29** 389, 1896

10 Curschmann Zur Differential Diagnostik der mit Ascites verbundenen Erkrankungen der Leber und der Pfortadersystem, Deutsch med Wchnschr **10** 564, 1884

11 Kelly, A O J On Multiple Serositis—The Association of Chronic Obliterative Pericarditis with Ascites, with Particular Reference to the "Pericarditic Pseudocirrhosis of the Liver" of Pick and the Iced Liver" (Zuckergussleber) of Curschmann, Am J M Sc **125** 116 (Jan) 1903

with definite tuberculous changes elsewhere in the body There remain, however, two questions worthy of some discussion, which are (1) the frequency of true cirrhosis of the liver in cases of calcified pericardium, (2) the explanation of the occurrence or nonoccurrence of the calcification

True atrophic cirrhosis of the liver, as first pointed out by Wells [8] is rather frequent in cases of calcified pericardium, and is in rather striking contrast with the usual perihepatitis or hypertrophic changes found in cases of polyserositis In the study of the series of cases referred to previously, we have found reports of true atrophic cirrhosis in seventeen of the fifty cases in which the liver was mentioned at necropsy The simplest explanation, and to us the most probable, is that this change is merely the expression of the advanced stage of the disease The observation of Kelly [11] that true cirrhosis is found in the advanced cases of polyserositis supports such an opinion, as does also the age of the patients In addition, such a view strengthens the belief in an actual invasion of the liver parenchyma by the disease process, and indicates that the changes in the liver are primary, and that they are not secondary to heart failure

An explanation of the calcification on similar grounds of duration of the process or of the age of the patient seems probable, especially when one considers the age at which calcification of the pericardium is usually found Thus, it would seem that not only do cases of calcification of the pericardium belong to the syndrome of polyserositis, but that they are advanced cases in which, for some reason, the process has progressed more slowly, or, possibly, in which the process has begun later in the life of the patient

The foregoing case report presents several interesting features, particularly that related to the development of ascites under observation The history of the discharging glands in the neck of a patient aged 42 suggested to us that the condition was tuberculous adenitis, and that the case was tuberculous in origin However, contrary to the findings in the majority of cases of calcified pericardium, the initial symptoms were cardiac It should be remembered, however, that in cases of polyserositis, although the peritoneum is usually the first serous membrane to present symptoms, sometimes the symptoms first appear in one of the other serous cavities If, for any reason, the peritoneal involvement remains latent or progresses more slowly, the symptoms of cardiac failure, prominent in many of the late cases, may be the initial symptoms In addition, the analysis of the ascitic fluid removed reveals essentially the characteristics of an exudate, a fact that is much more indicative of a condition of true serositis than of a condition of simple ascites from cardiac failure

## ROENTGEN-RAY FINDINGS

Since the discovery of this uncommon condition during life is entirely dependent on the roentgen ray, it is extremely interesting to the roentgenologist The infrequency with which the condition is reported is probably responsible for its apparent rarity, but another factor must be taken into consideration, namely, that not all suspected cardiac conditions are examined fluoroscopically Even the stereoscopic film examination will not suffice, as the distribution of lime salt may be such that it will not cast a denser shadow on the film than the surrounding structures However, if the patient is examined fluoroscopically, it is possible to view the cardiac outline from many angles

Since the observance by Schwartz,[5] in 1910, of the first case of this condition to be discovered by the roentgen ray, eleven instances have been reported [12] Two of these have been reported during the last year, one by Case [13] and one by Amundsen [14] of Christiania, Norway

A review of all the cases exhibiting this condition, including the instances described at necropsy, shows that it has been found in all stages, from a few calcified plaques scattered throughout the pericardial sac to a stage in which the heart was almost completely covered by a stony deposit In the last mentioned case, reported by Drummond [15] in 1890, the calcification varied from one-quarter inch to a full inch in thickness, and parts of the pericardial sac had to be opened with a saw No instance as marked as Drummond's has been noted fluoroscopically

When calcification of the pericardium occurs, the pericardial cavity is obliterated almost without exception, and the calcification is seen to appear in the layer of material that has united the visceral and parietal pericardium The distribution is quite uniform, appearing first in the posterior region of the pericardial sac close to the apex The ramifications extend out from this region, resembling finger-like projections of a lime salt deposit The cases that have progressed furthest show a true extension of the calcium salts into the substance of the heart muscle

A short review of the findings in the previously reported cases is given here In the first case described by Schwartz,[5] the heart was normal in size, with a large mass on the posterior surface, extending over part of the left ventricular wall in a projection 3 cm long and 2 cm wide, which pulsated His second case [10] showed a perielliptic shadow over the entire under surface of the heart, extending from apex to right base Groedel [17] described a heart that suggested both mitral and aortic valvular pathology, there was a bandlike area of increased density running vertically near the apex The two instances reported by Rieder [18] showed calcium deposit involving the pericardium and extending over the left ventricle, in both cases, the deposit was irregular Weil's [19] findings were not dissimilar to those of Rieder The deposition was irregular, and extended to the pericardium below the heart We cannot give the findings in Brauer's case, because of failure to obtain the publication containing the report [20] Assman [21] published an illustration, and mentioned the case of calcified pericardium in his text, from the illustration, the distribution appears to be rather patchy and mainly involves

12 Schwartz two Grodel one Rieder two Weil, one Brauer, one, Assman one Klason one Case one Amundsen one

13 Case J T Pericarditis Calculosa Report of a New Case Discovered Roentgenologically J A M A **80** 236 (Jan 27) 1923

14 Amundsen A A Case of Calculous Pericarditis, Acta radiol **2** 38 (Feb) 1923

15 Drummond D Notes on a Case of Calcareous Disease of the Heart and Pericardium Am J M Sc **99** 153 1890

16 Schwartz G Demonstration einer ausgedehnten Kalkplatte im Herzbeutel Mittels der Rontgenuntersuchen Nachwiesen, unter dem Bilde einer Lebercirrhose Verlaufend Wien klin Wchnschr **24** 1541 1911

17 Groedel F M Erste Mitteilung über die Differenzierung einzelner Herzhohlen im Röntgenbilde und den Nachweis von Kalkschatten in der Herzselhouete intra Vitam Fortschr a d Geb d Rontgenstrahlen **16** 337 1911

18 Rieder H Das Panzerherz Fortschr a d Geb d Rontgenstrahlen **20** 50 1913

19 Weil A Panserherz und Pickesche Lebercirrhose Fortschr a d Geb d Rontgenstrahlen **23** 489 1916

20 This case is given by Klason as being reported by Brauer in the Atlas und Grundwiss der Rontgendiagnostik in der inneren Medizin edited by F M Groedel Our copy of the first edition of this book (Vol VII Lehmans med Atlanton Munchen, 1909) does not contain a report of such a case We have been unable to obtain a copy of a later edition

21 Assman H Die Klinische Rontgendiagnostik der inneren Erkrankungen Ed 2 Leipzig J Vogel 1922

the pericardium covering the left ventricle Klason[22] apparently reports only one case of true calcification of the pericardium, and one case of deposition of lime salt in the fibrous annulus coronarium The last two cases previous to ours, namely, those reported by Case[13] and Amundsen,[14] show shadows of lime salt density in the posterior portion of the pericardial sac, in the region of the left ventricle Amundsen's case showed the calcification more sharply localized in a finger-like shadow

From the roentgenologic standpoint, suspected cases of this condition should be studied very carefully by fluoroscopic methods, and several films should be made at different angles In making the exposures, the shortest possible time should be used so that the calcified area will stand out as clearly as possible Regarding fluoroscopy, it is extremely important that the observer remain sufficiently long in a darkened room before attempting the screen examination

### CONCLUSIONS

1 The majority of the cases of calcified pericardium are of a similar nature and etiology, constituting a definite clinical pathologic group

2 They are essentially cases of polyserositis, probably advanced stages, and are tuberculous in origin

3 Occasional cases occur, closely simulating the foregoing group, but due to other causes, usually to the presence of the rheumatic virus

In the study of cardiac disease, more frequent use of the roentgenologic examination, by means of which these cases are diagnosed during life, will increase the number of such cases discovered

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## THE EUSCOPE AS AN AID TO MICROSCOPY *

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NEW YORK

Recent years have witnessed a great expansion in the use of the microscope in industry as well as in science with the result that routine microscopy, which was formerly done by self-selected specialists, must now be entrusted to technicians The visual acuity of technicians, especially in such routine work as counting objects or searching for casts, tubercle bacilli and other microscopic objects, thus becomes a matter of prime importance, not only because of its effects on reliability and accuracy, but particularly because the maintenance of visual acuity in persons with good vision is wholly dependent on freedom from eyestrain, fatigue and toxins

The physiologic optics of microscopy are rendered exceedingly complex by the multiplicity of fine muscular adjustments, intricate nerve mechanisms and selective action of diverse stimuli on the delicate nerve end structure of the retina All these are involved in the impairment of visual acuity and the production of such symptoms of fatigue and strain as headache, somnolence, muscular pain, blepharospasm, flicker dizziness and disturbances of accommodation and vision, such as blurring, spots and color sensations When microscopists with such symptoms are seen by ophthalmologists, some slight muscular deficiency or error of refraction is generally found, which, when corrected, often leads to respite or amelioration but very seldom to a cure In our experience, even a slight muscular trouble permanently restricts the capacity of a microscopist to do routine work with dependable visual acuity On the other hand, refractive error patients get along far more comfortably and reliably In this connection, it is of interest to note that no technician who began with tested emmetropic eyes has been encountered by us who managed to continue routine microscopy longer than two years without finding it necessary to be fitted with glasses

In an attempt to get a closer insight into the causative factors of deterioration of visual acuity and other symptoms of strain and fatigue incident to microscopy, three technicians, G S, J H and E W, were kept under continuous observation for more than two years All were healthy young adults E W and J H had tested normal vision, G S wore a correction for astigmatism

Their work with monocular microscopes proved definitely that suppression of the image in the "off eye" is invariably accompanied by effort and strain, no matter how practiced the microscopist may be Their experience has demonstrated also a very close incidence between the time spent in looking through the microscope and the occurrence and character of the complaints Thus, blurred vision was never experienced except in connection with overwork Experiments made with high and low magnifications showed a close relationship between high magnifications and eyestrain, and the association of intensity of light with loss of acuity and other symptoms became also plainly evident Thus, a glare, or too much light through the microscope induces symptoms of irritation, such as blinking, blepharospasm and lacrimation, while insufficient light results in quick fatigue and diminished acuity, due, in part at least, to the effects on accommodation

Our observations may be summarized by the statement that many factors contribute to the production of lessened acuity, discomforts and other signs of fatigue and strain connected with microscopy These factors occur either singly or in combination with other factors, and while manifesting a decided tendency to vary with the individual, are not always similarly operative as regards either cause or effects, even in the same individual

The only constant factor is posture, which induces different effects according to the position assumed by a microscopist, this, in turn, is influenced by the type of spectacle or eyeglass frame worn, at times also by an existing visual defect or other anatomic peculiarity Certainly, the maintenance of a fixed position of the head and neck always involves strain with consequent discomfort and fatigue, and this became plainly apparent when a trial was made of binocular microscopes Thus, all three technicians preferred to return to the monocular, finding that the greater rigidity and fixation of the head and neck, and possibly also of the ocular musculature, required by binocular microscopes caused discomforts for which the visual relief afforded by them did not compensate In fact, it soon becomes plain that the monocular microscope allows more elasticity of position and greater ability to shift than binocular microscopes

### CONSTRUCTION OF THE EUSCOPE

Attempts to aid and improve microscopy led to the construction of the euscope (*εὖ*, well or comfortably, *σκοπεῖν*, to see), which, with binocular single vision, provides enlarged images of stereo effect in conjunction

22 Klason, T Pericarditis Calculosa und Herzverkalkungen, Acta radiol 1 162 (Sept) 1921

* From the Prudential Longevity Service

with diminished light irritation to the nerve end organs of the retina, and permits natural, easy posture with complete relaxation and freedom of the head, neck and ocular muscles

From Figure 1 it will be seen that the euscope consists of an adjustable stand supporting a camera or viewing

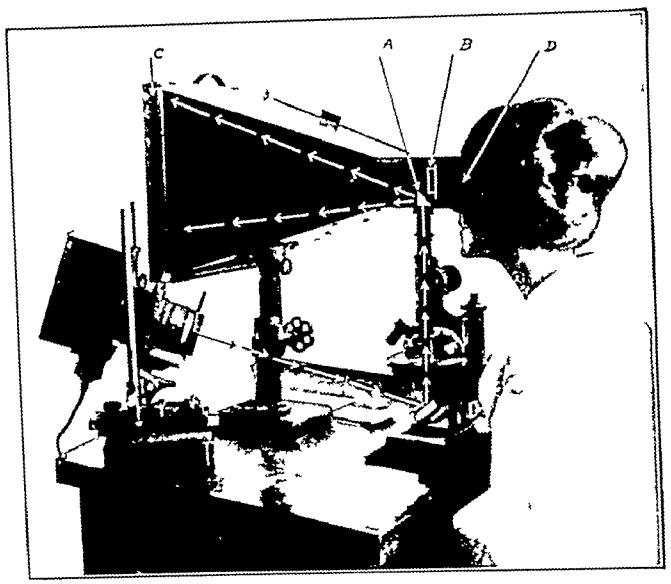


Fig 1—Euscope arranged for microscopy Arrows indicate path of light A total reflecting prism B mount for sphero prisms or other magnifiers C screen or photographic plate or paper and D shield for side and extraneous light

chamber, having on its floor, near the smaller end, an aperture to receive the eyepiece of the microscope In this is placed the removable mount of a total reflecting prism, which bends the ray of light emerging from the microscope at a right angle in such a way that the microscopic image is deflected to the screen at the larger end of the eusope From this it will be seen that euscopy is done by projection, with all its attendant facilities and advantages

The viewing chamber, or camera, is light tight and screened from side and extraneous light by a conforming shield fitted to the ocular or smaller end, which insures comfortable projection in bright daylight A lens plate or diaphragm, placed between the ocular end and the prism aperture, carries a pair of spheroprisms or a strip of reading glass of proper focus, which has the advantage of eliminating interpupillary adjustments Either of these greatly enhances effectiveness by adding magnification, crispness and stereo effect

The larger, or screen end is arranged to allow easy removal of the screen for the projection of large images or replacement of the screen by a photographic plate or paper holder Experiments with different screen materials in the effort to get a screen with hard, white matte surface, as free from graininess as possible, showed that screens made of calcium tungstate or of green zinc oxid or of titanium oxid are satisfactory and durable, the zinc oxid having the finest grain

Any type of efficient lamp will satisfy illumination requirements For critical illumination, however, and particularly for photography, a homogeneous source of light such as is always preferred for projection will give very much better results than any other Of these the new ribbon filament lamp or the older tungsare are recommended New lamps are in process of development which will amplify illumination, but the lamps named above will be found to satisfy every reasonable requirement, except distant projection, especially if provided with a condensing lens having a cartesian surface

The only change in one's accustomed microscopic technic required by the euscope consists merely in manipulating the object slide to conform with the true position of the object, instead of the reverse, as when seen with the unaided microscope This will be found advantageous and also makes the monocular microscope available for chemical microscopy Another technical point to be noted is the adjustment of the height of the euscope so that its prism rests as close as possible to the top lens of the eyepiece of the microscope

For routine work, a 150 millimeter square screen conveniently placed at a distance of 200 mm from the reflecting surface of the prism is satisfactory Seen through the strip of reading glass, the visual field has then the apparent size of a full page magazine illustration, differing somewhat with the type of objective and eyepiece employed The image appears crisp with three dimensional effect, and corresponds with the normal projection of standard microscopes It is to be noted, however, that any spherical aberration of the objective is accentuated, as is to be expected in projection Any possible combination of eyepiece and objective may be used With objectives less than 16 mm , a larger field is secured with the concave mirror of the microscope, or by lowering the condenser and using the plane mirror, which should be regularly employed with objectives of higher power The enlarged stereo-like images thus possible with binocular single vision are seen without effort in a natural, easy sitting position, permitting perfect freedom of play of the head, neck, back and ocular musculature By viewing a reflection on a screen instead of looking directly at the light source as one does with the unaided microscope, irritation of the rods and cones of the retina, with consequent fag of the visual purple, is reduced to a minimum, and more of the retina is brought into play

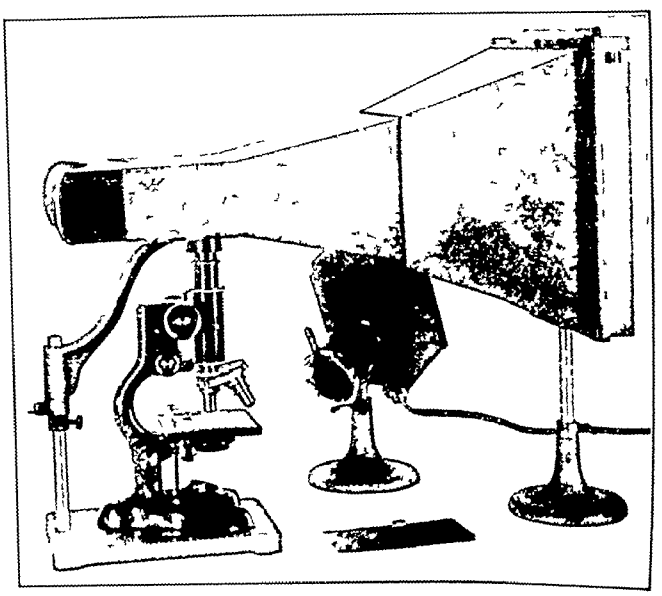

Fig 2—Simplified euscope extended with accessories

Eyeglasses or spectacle frames of any type may be worn with perfect comfort and offer no handicap This is true whatever the correction needed by the individual microscopist, bifocal lenses being as comfortably worn as simpler ones Thus, routine microscopy is brought, as regards comfort and strain, to a level with ordinary

clerical work, and the ease and certainty with which structural details are seen appreciably increase the efficiency and capacity of the microscopist As evidence of this is the experience that during the four years in which euscopes have been used in the Prudential laboratory, not a single complaint referring to fatigue or strain symptoms has been heard

### OTHER USES OF THE INSTRUMENT

For teaching and demonstration work, the euscope can be used in a dark room as a simple projection apparatus by removing the screen and employing a sufficiently intense light In semilighted rooms, the opaque screen may be replaced by a transparent screen of thin white Japanese silk or a thin plate of glass with a finely ground surface A transparent screen of particularly fine grain for this purpose may be prepared with an unexposed photographic plate [1] Either method permits the demonstration of microscopic specimens with any combination of eyepiece and objective desired by the instructor, who can remain comfortably seated while manipulating the microscope in his normal, accus- manner Microscopic objects have in this way demonstrated with the euscope continuously for rs at a time in well lighted exhibition halls By ying the arrangement, instruction may be given students by means of the euscope with much saving of time and uncertainty

Photomicography has possibilities of usefulness that have not yet been realized, largely because of the special skill and apparatus that have heretofore been required The euscope, being a natural camera, makes photography practical for routine work, even in the hands of the inexperienced Thus, at any time during the examination of a slide that may present some unusual or interesting feature that it is desired to record, one can simply replace the viewing screen by photographic plate or paper and expose it No other accessory or manipulation is necessary than intercepting the beam of light between the lamp and the microscope mirror with a piece of cardboard, while withdrawing and replacing the slide of the plate holder The construction of the euscope permits the use of either 4 by 5 or 8 by 10 inch plates or bromid papers for record photographs In this way, blood counts may be made photographically with 16 or 8 millimeter objectives, which give a field large enough to include all of the 400 squares of the hemocytometer slide, and when made in this way, not only serve as records but also are obtained more accurately and less tediously

For research work, the euscope offers possibilities, in addition to those mentioned, in connection with routine work and photography The highest magnifying powers demand a close and exact approximation of the cornea of the observer to the top lens of the eyepiece, in conjunction with fine focusing, which is generally attended with disturbance of definition and difficulty of continuous study With the euscope, however, objectives and eyepieces of the highest resolving powers can be employed just as conveniently and without more difficulty than those of lower power

It need hardly be stated that the euscope does not increase the resolving power of the microscope, which now practically reaches the theoretical limit of attainment fixed by the wave length of light The euscope, however, permits better utilization of the limit of resolution and also offers magnifications that have not been hitherto obtainable by direct vision Thus, the limit of microscopic resolving power is attained with the combination of 1 4 numerical aperture and 2 millimeter equivalent focus objective and 30 × compensating eyepiece, giving 2,700 magnifications According to the formula

$$\text{magnifications} = \frac{\text{projection distance}}{\text{focal length of objective}} \times \text{eyepiece magnifications}$$

It will be seen that by using the 400 millimeter screen distance of the euscope, 6,000 magnifications are reached Adding the strip of reading glass, which is part of the euscope equipment, more than 10,000 magnifications are attained, and if a 6× binocular stereoscopic magnifier is employed instead of the reading glass, more than 35,000 magnifications may be clearly and comfortably studied, and it is possible to more than double such magnifications wtih monocular magnifiers of higher power In this way, minutiae, although resolved by the objective but which are so fine as to appear indeterminate because of the small angle of arc they subtend, are spread and may be seen much better Thus in a recent study of the optical constants of fine crystals, a novice easily determined with the euscope extinction angles which an expert was unable to measure with the unaided petrographic microscope

Euscopy is applicable to other optical instruments as well as to the microscope, and will be most appreciated when the heights of the table and the chair are so adjusted that, when he is seated in a natural and easy position, the eyes of the observer are on a level with the ocular end of the euscope

98 Central Park West

1 A clean plate slightly larger than the desired size should be taken in order to trim defective or injured edges It should be fixed in hypo washed and dried, and stock solutions A and B should be prepared A consisting of 10 per cent barium chlorid and B of 10 per cent chemically pure sulphuric acid Solutions A and B are each diluted 200 times and the dilutions are placed in separate trays The plate should be soaked in A tray five minutes, washed and rinsed carefully with water, and then soaked in B tray five minutes This should be repeated until the density is about one half what is wanted Fineness and evenness of grain depend on manipulative care, particularly in washing and rinsing the plate when changing from one tray to another

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## SUTURE OF WOUND OF THE HEART

### LIGATING THE INTERVENTRICULAR BRANCH OF THE LEFT CORONARY ARTERY AND VEIN *

GEORGE L DAVENPORT, M D
CHICAGO

The case here reported concerns a punctured wound of the heart penetrating the upper portion of the middle third of the right ventricle anteriorly, near the septum, and accompanied by hemopericardium The cardiac wound was not complicated by any injury to the pleura or lung, and, in the closure of the heart wound, ligation of the interventricular branch of the left coronary artery and vein became necessary

### REPORT OF CASE

*History*—J S, a white man, aged 44, a machinist, admitted to the detention ward of the Cook County Hospital, Aug 3, 1920, came voluntarily, complaining of being very much depressed over the recent death of his mother After the usual examination, a tentative diagnosis of simple depression was made, and the patient remained for further observation The patient had a good physique and was well nourished The heart examination, in particular, did not reveal any abnormality The blood pressure was systolic, 120 mm of mercury diastolic, 80 mm

* Read before the Chicago Surgical Society, May 6, 1921

The day following the examination, August 4, the patient inflicted on himself a stab wound, using for this purpose a 16 penny casing nail or wire nail 3½ inches long and about a 12 gage size (Fig 1) He must have grasped the nail in his right hand and made several attempts at stabbing himself in the left breast, for there were numerous superficial punctures of the left part of the thorax somewhat below the

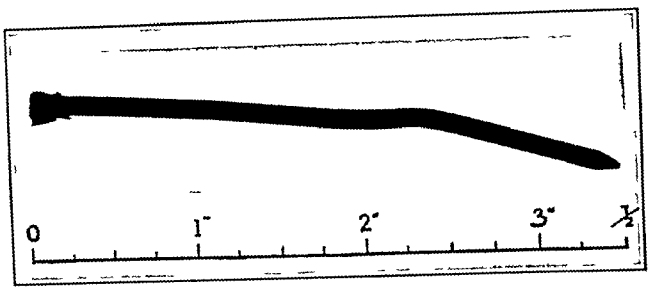


Fig 1—The nail with which the wound was inflicted

precordial region Not satisfied with this, he changed the nail to his left hand, pressed the point to his left breast and, using his right fist as a hammer, drove the nail up to its head into the chest The resulting skin wound was located 1 inch inside the nipple line in the fourth interspace (Fig 2, 1)

At about 1 45 p m on the same day, the patient was seen to stagger and sink to the floor The attending intern at once noticed the bleeding from the left chest and extracted the nail with artery forceps Blood exuded freely during and after this manipulation The radial pulse being hardly perceptible, stimulation with camphor in oil and strychnin was administered, and the patient was immediately transferred to the surgical service

*Examination*—The patient was conscious, his face had an expression of anguish, the skin, in general, was pale, cold and clammy, and the lips, the tip of the nose and the finger nails were slightly cyanotic

The radial pulse was small, rapid and irregular, periodically becoming imperceptible Respirations were shallow, and there was a slight increase in the extent of the cardiac dulness Auscultation revealed diminished and irregular heart tones Fluoroscopy demonstrated a moderate increase of the cardiac shadow An elaborate examination with the patient in the sitting posture was not possible because of his condition The freely bleeding stab wound in the precordial region, together with the symptoms already enumerated, pointed toward a cardiac injury, and, under this tentative diagnosis, the patient was at once removed to the operating room where preparation was made for the indicated surgical intervention

*Operation and Result*—The operation started at about 2 30 p m, local anesthesia (procain, 1 per cent solution) being employed An area large enough for rib resection was blocked off, the fact being kept in mind that a diagnosis of the exact location of the wound in the heart is impossible until after exploration Herein lies one great difficulty in heart surgery Thus, the mode of approach being indefinite, I proceeded to place the incision so that more than one rib could be resected, or, if necessary, a flap operation could be employed

An incision 12 cm long was made from the center of the sternum to the left, over the fifth rib and curving slightly upward toward the axilla (Fig 2, 1) The skin edges were undermined above and below, the incision then being carried down through the pectoralis major muscle and the periosteum of the fifth rib (Fig 2, 2)

The periosteum was peeled off, and 5 cm of the fifth rib with a portion of its cartilage was resected (Fig 2, 3), care being taken not to open the pleura, because herein lies the ultimate danger of infection although many observations show that the pleura is nearly always opened during operative manipulation, if opening does not already exist

The muscles were then pushed up and out with a periosteal elevator toward the fourth rib as well as downward toward the sixth rib, and retracted

Then the cellular tissue along the sternal border was grasped, incised carefully from the lower border of the fourth rib downward and pushed outward with the internal mammary artery, the pleura stripping with ease from the pericardium

All the tissues in the field so far were infiltrated with blood, even to the dense pericardium The blood was seen escaping freely from the stab wound in the pericardial sac, a leakage which I believe, prevented a marked heart blockage from hemopericardium, a condition which probably would have resulted in death before an operation could have been instituted

The pericardium was grasped with forceps, lifted up and an oblique incision made 5 cm long downward and outward, starting at the border of the sternum just below the lower border of the fourth cartilaginous attachment (Fig 3, 4)

Retractors were then placed in this incision, one below and two above, too great a pull on the outer retractor caused more irregularity in the heart action because of the dragging on the great vessels at the base

The pericardial sac was filled with liquid blood, and there was also present a large clot, which eased itself out of the retracted opening in the pericardial sac as a result of the pressure within the sac increased by the heart action The clot was about the size and shape of the palm of the hand with the fingers, and had the appearance of whipped up fibrin

The heart presented a wound about 5 mm in diameter, located in the upper portion of the middle third of the right ventricle anteriorly, about 3 mm to the left of the interventricular branch of the left coronary artery and vein, these vessels were seen to fill and empty with each heart beat

The cardiac wound extended through the right border of the septum of the ventricles into the right ventricle From

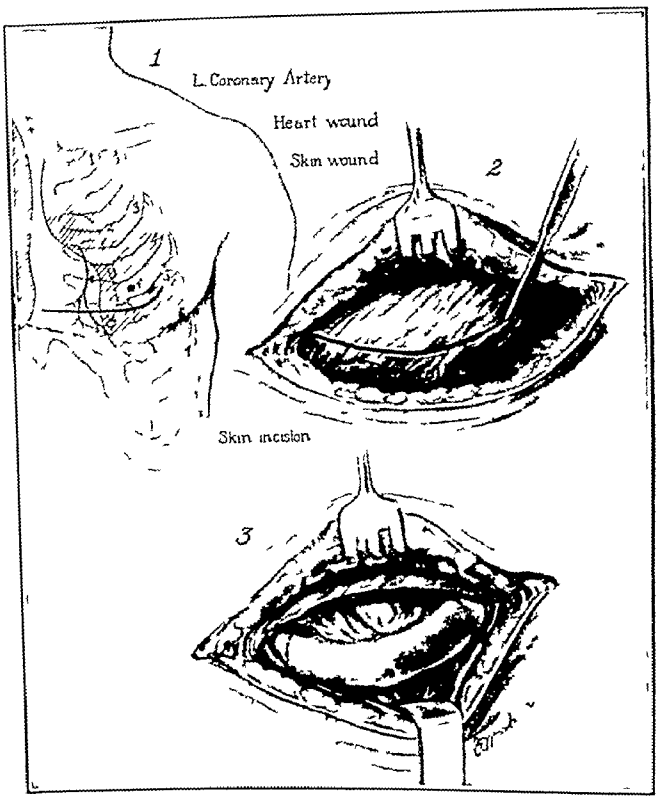


Fig 2—Operative procedures 1 location of wounds and incision 2 incision extending through pectoralis major muscle 3 resection of the fifth rib

this wound was seen coming with each ventricular contraction a jet of dark blood, which struck against the chest wall at the under surface of the fourth rib

The wound of the heart was closed with interrupted silk sutures carried on a full curved needle A straight needle was not used because it cannot follow the movements of the heart and will tear the myocardium Digital pressure was

made over the wound to keep the blood from befogging the field The first, or center, stitch went into the thick septum of the left side and out through the wound, then across into the wound and through the thin, flabby wall of the right ventricle, going under the interventricular branch of the left coronary artery and vein, and coming out just to the right of

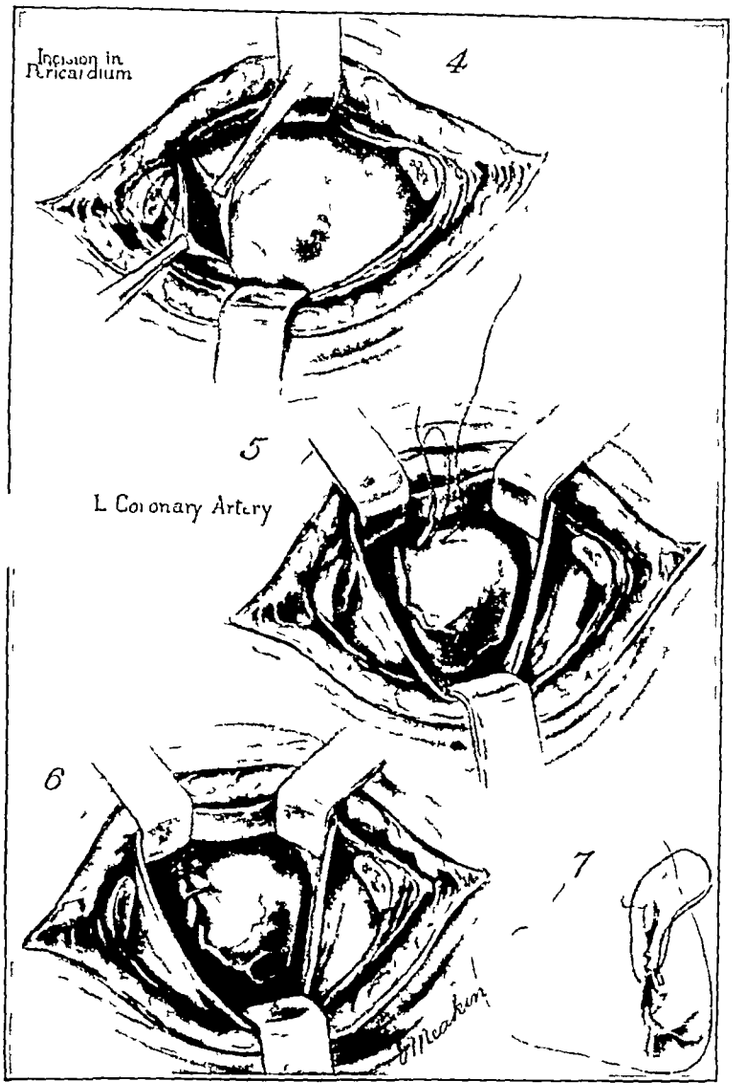


Fig 3—Operative procedures 4, incision in pericardium 5, the first or center stitch, coming out to the right of the coronary artery, 6, addition of a stitch placed above and another below the first one to stop bleeding, 7, reinforcing of the first suture line with a running silk stitch

them, avoiding the endocardium (Fig 3, 5) The stitch was tied and the knot tightened when the muscle was in repose, this suture being left long, to be used as a guide and tractor for the placing of the other two sutures It was found that almost all the bleeding had stopped except for some oozing above and below this stitch, so with one sweep of the needle going under the vessels mentioned above, a stitch was placed above and below the first one, stopping all bleeding (Fig 3, 6)

Then, with a running silk stitch similar to a Lembert suture, an attempt was made to reinforce the first suture line as well as to cover them over in order to prevent adhesions, it was noted that there was a tendency for these sutures to tear out in places because of the tension and the muscular action of the heart wall (Fig 3, 7)

Some of the sutures were placed during special time in the cardiac cycle, that is, during ventricular contraction when the thin, flabby wall of the right ventricle is firmer, and when it is not so easy to include the endocardium in the stitch The remaining stitches were inserted at any time, while the mobility of the heart was steadied with the left index finger on the apex

The blood remaining in the pericardial sac was mopped out with wet laparotomy sponges, and the sac closed with interrupted catgut sutures

A gutta percha drain was inserted down to the pericardium, the muscles were brought together with catgut, leaving out the portion of resected rib, and the skin was closed with black silk On two occasions during the operation, it became necessary to give the patient camphor in oil hypodermically because of the extremely poor pulse

Since the patient was not suffering from hemorrhage, there was no need of intravenous salt solution or of blood transfusion

The drain was removed after forty-eight hours, and there were no postoperative complications The wound healed kindly, and the patient was out of bed, August 17, thirteen days after the operation A roentgenogram of the chest at this time showed the heart to be slightly increased in size The configuration of the cardiac shadow was similar to that of an aortic regurgitation (Fig 4)

The radial pulse chart showed irregularity in the pulse rate, especially during the first three days after operation The patient, on the second, third and fourth days after operation had intermittent periods of labored respirations, and, for the first nine days after operation he was restless, a condition which was partly controlled by morphin

*Further Examinations*—Examination of the heart following the operation revealed irregular action, probably due to premature contractions

When the patient was discharged from the hospital, August 27, the heart examination revealed a slight enlargement but no murmurs September 1, four days after leaving the hospital, the patient resumed his former occupation

The patient was sent to Dr Fred Smith for a series of electrocardiographic tracings, requesting findings and diagnosis At the time when the first tracing was made, August 23, Dr Smith was not cognizant of the fact that a branch of the left coronary artery and vein had been ligated during the operation

The first electrocardiogram (Fig 5) was made, August 23, nineteen days after the operation, and Dr Smith reported that the striking feature of the electrocardiogram was the negative T deflection in the three deviations, and that these findings suggested that one of the branches of the left coronary artery had been ligated in repairing the cardiac wound

The second electrocardiogram (Fig 6) was made, September 9, thirty-six days after the operation The report was that the T wave had become less negative, and that this change in the electrocardiogram was very similar to that in the dog following the experimental ligation of branches of the left coronary artery

The third electrocardiogram (Fig 7) was made, October 2, fifty-nine days after the operation The report was that

Fig 4—Cardiac shadow the similarity of configuration to that of an aortic regurgitation may be noted

the electrocardiogram was similar to the one made at the former visit (Fig 6)

The fourth electrocardiogram (Fig 8) was made, April 18, 1921, 257 days, or eight and one-half months, after the operation Dr Smith reported that the T wave had changed to the positive phase, and that these findings still conformed to

the electrocardiographic changes in the dog following the experimental ligation of branches of the left coronary artery Examination of the heart, made by Dr Smith on the same day, revealed only a slight enlargement, no clinical evidence of any sequelae, such as adhesions of the pericardium, asystole, palpitation or dyspnea, conditions that may result from pleuropericardial adhesions

COMMENT

After reviewing the available literature, I find that differences in opinion still exist as to the origin and significance of the T wave in its various phases, but the character and change of the T deflection in the electrocardiograms of this man are similar to those that Smith [1] produced experimentally in the dog by means of the ligation of branches of the left coronary artery They also resemble the electrocardiographic tracings in the case diagnosed and reported by Herrick,[2] in which thrombosis of the left coronary artery was verified later at necropsy

As this is only the report of one case, there is need for further confirmation, and I present these facts for consideration

The appearance of the scars in the case reported here, when the patient was discharged from the hospital, is shown in Figure 9 The operative scar was inked

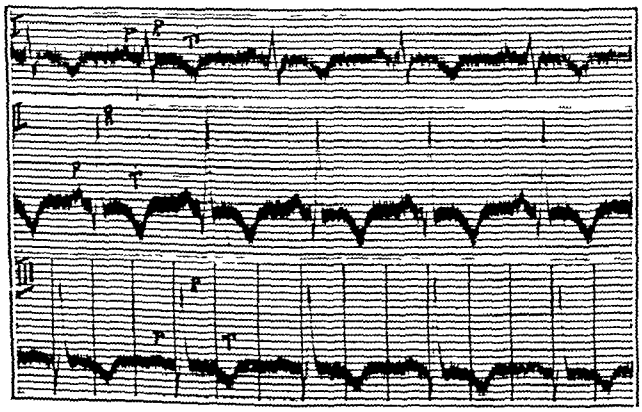

Fig 5 —First electrocardiogram made nineteen days after operation

Surgery of the heart is a recent conquest, the first cardiorrhaphy having been performed in the year 1896 by Farina of Rome In 1901, of the twenty-six instances tabulated, three operations were performed in America In 1909, Vaughan [3] gathered 150 cases in which operations had been performed for wounds of the heart with a total of ninety-eight deaths, representing a mortality rate of 65 per cent , of the 150 operations tabulated, fourteen were performed in America In 1919, Costantini [4] gathered 281 cases in which operations for wounds of the heart had been performed, with a total of 140 deaths, or a mortality of about 50 per cent

Operations for all injuries of the heart should be performed immediately, according to Holmes and Fisher, who in 1881 reported, prior to the days of cardiorrhaphy, a mortality of 85 per cent The possibility of a spontaneous repair of heart wounds is evidenced daily in the laboratory in taking blood from the guinea-pigs for the complement used in the Wassermann test when a large (18 gage) needle is thrust into its small heart It was reported that, one of these animals, its heart having been punctured a great many times during the previous eighteen months, died recently as a result

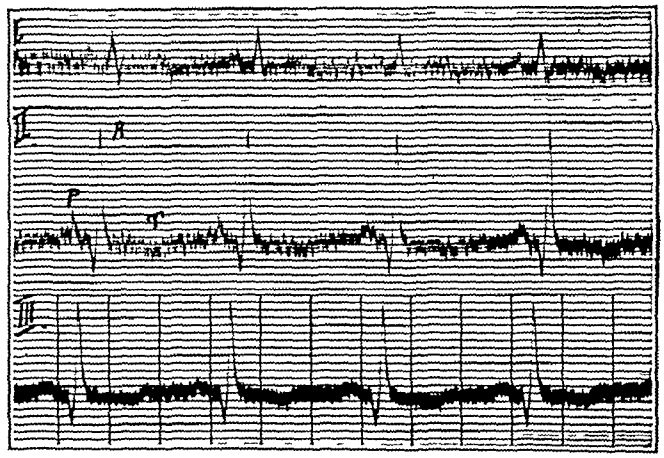

Fig 6 —Second electrocardiogram made thirty six days after operation

of pericardial hemorrhage following the last puncture, that examination of the heart revealed no gross changes, and that, microscopically, the muscle showed no scar tissue or recent inflammatory tissue

The diagnosis of heart injury is difficult, but it can be made if one examines the wound carefully and knows the exact interpretation of each symptom and sign

The importance of the following considerations is well illustrated by the case just cited

When there is loss of consciousness, it may have been caused by cerebral anemia resulting from hemorrhage or ventricular blockage due to hemopericardium A skin wound in the precordial region with the presence of copious hemorrhage is very significant of cardiac injury, although, in certain cases, the wound may be quite remote from this location, and a heart wound may be present

The expression of anguish and agitation is caused by cardiac blockage from the hemopericardium or by cerebral anemia The pale, cold and clammy skin is the result of shock Cyanosis of the lips, tip of the nose and finger nails, accompanied by pallor, is very significant of hemopericardium, a condition which early manifests itself by interference with the venous return, and finally results in blockage of the heart

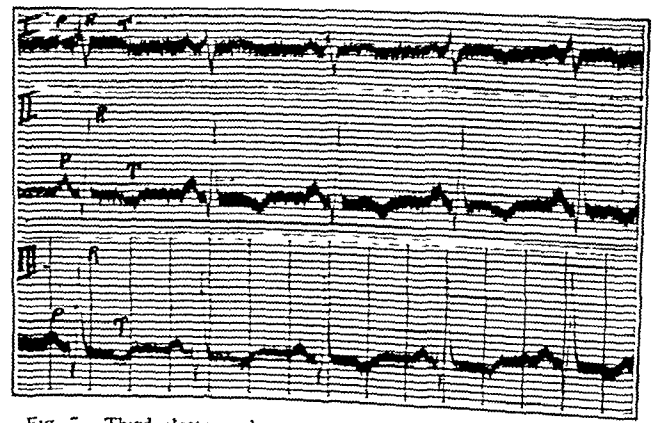

Fig 7 —Third electrocardiogram made fifty nine days after operation

The pulse in this case was small, rapid and irregular, but one must bear in mind that in certain dry wounds

[1] Smith F M Ligation of Coronary Arteries Arch Int. Med 22 8 (July) 1918 Further Observations on T Wave of Electrocardiogram of the Dog Following Ligation of Coronary Arteries ibid. 25 673 (June) 1920

[2] Herrick J B Thrombosis of the Coronary Arteries, J A. M. A. 72 387 (Feb 8) 1919

[3] Vaughan G T Suture of Wounds of the Heart, J A. M. A. 52 429 (Feb 6) 1909

[4] Costantini Henri Surgical Treatment of Heart Wounds J de Chir 16 383 1920

the pulse may remain good, and that in these dry wounds intermediate hemorrhage may occur, explaining the appearance of a hemopericardium with blockage of the heart days after the injury

Dyspnea and superficial respiration result from anemia or hemothorax, and a pneumothorax when these conditions are present

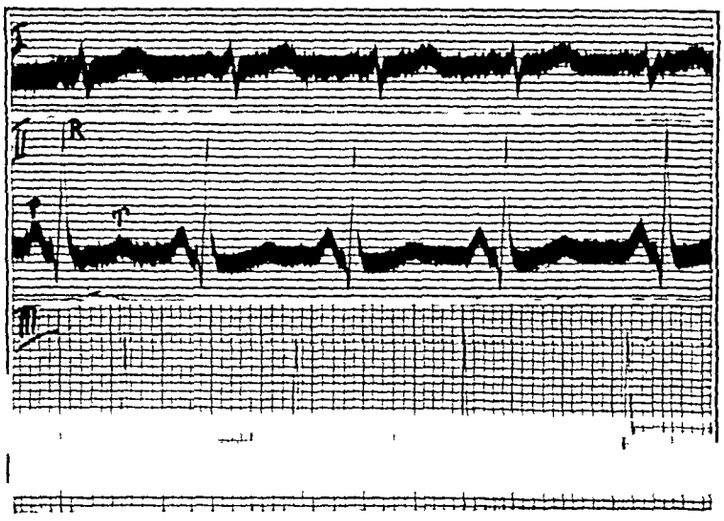

Fig 8.—Fourth electrocardiogram, made 257 days after operation

The increase in cardiac dulness with diminished heart tones is very important, indicating the presence of a hemopericardium The fact that murmurs are present is of little value

Fluoroscopic examination when a projectile is present reveals its approximate position and depth A very important sign is the immobility of the cardiopericardial shadow, which reveals the existence of a hemopericardium, but which is difficult to demonstrate if a hemothorax coexists Absence of movement of the diaphragm when that is injured, as well as the presence of blood in the thoracic cavity, may point to an injury of the heart

The course of surgical procedure in heart injuries is, first, to establish the diagnosis of the cardiac injury,

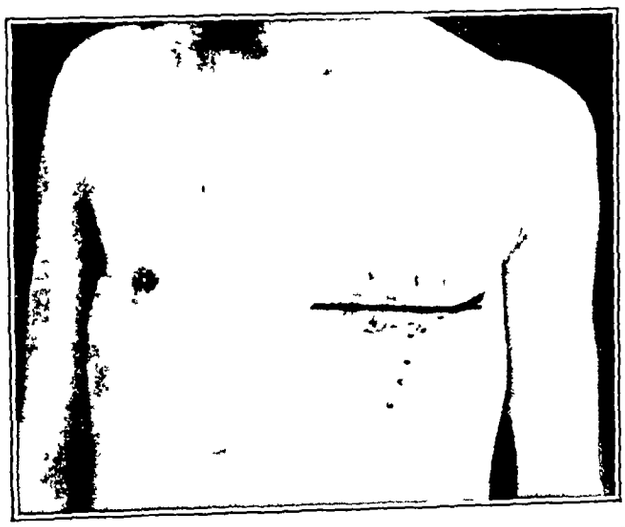

Fig 9.—Appearance of scars when the patient was discharged, the operative scar was inked, the small scars resulted from puncture wounds made by the patient

and, secondly, to ascertain the exact location of the heart wound, controlling hemorrhage by digital pressure while the necessary further exposure is carried out Right sided injuries should be approached from the right, although they can be handled from the left if a large flap is raised, including cartilages with portions of their ribs, the third, fourth and fifth ribs, and also a transverse section of the sternum The pedicle should be placed to the outer side, where there is less danger of injury to the pleura, but if it is placed internally, the triangularis sterni muscle must be cut to raise the flap, and great care must be used not to cut or tear the pleura Flap operations are necessary in repairing wounds of the auricles Types of flaps are shown in Figure 10, in which, in the center of the pedicle, is seen a transverse incision for the purpose of dividing the fourth rib Ventricular wounds are easily sutured by the resection of one or two ribs If the heart is bleeding profusely, the opening in the chest is too small, and there is no time to lose, since it is too late to raise a flap, a larger portion of rib out toward the axilla is resected and, by means of a self-retaining retractor or a rib spreader, the work is done quickly through the pleura

According to Rehn,[5] bullet wounds of the heart giving opportunity for first aid comprise only a limited chapter in war surgery The greater number of men so wounded die on the battlefields, as only a small percentage may be transported, for such patients, the bomb-proof station guarantees the best opportunity for proper surgical attention

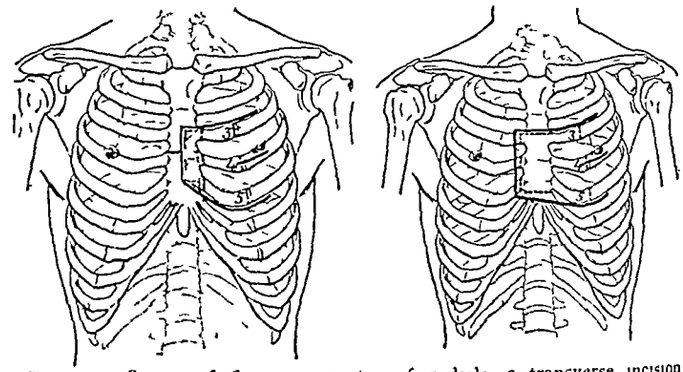

Fig 10.—Types of flaps in center of pedicle a transverse incision for the purpose of dividing the fourth rib, after Costantini

In the later operations for retained projectiles and wounds entering from the back, Matas[6] urges the Duval-Barasty operation, or the median thoracophrenic laparotomy (Fig 11) for the complete exposure of the heart and vessels at the base Three cases of operations performed in this manner were reported in 1918 The incision is made in the median line extending down below the xiphoid cartilage, cutting the sternum in the midline, and also transversely at the level of the third cartilage, then the diaphragm is incised from the front backward to the triangular ligament

Duval, up to 1918, reported a total of sixty-two cases of war projectiles in the heart, thirty-nine were cases of parietal or mural wounds, and sixteen of these patients were operated on, with a result of two deaths, twenty-three patients were not operated on, and no deaths were reported

Another interesting series was reported of twenty-three cases of projectiles retained in the heart cavities, ten of these patients were operated on, with three deaths occurring, thirteen were not operated on, with a result of only one death

These statistics, as Matas has stated, "favor the nonoperative treatment, but indications cannot be formulated on statistics, only on the individual prognosis as

5 Rehn Edward Zur Chirurgie des Herzbeutels, des Herzens und grossen Gefassstammes im Felde, Beitr z klin Chir **106** 634 1917

6 Matas, Rudolph Routes of Access to the Heart Lessons Gathered from the Experiences of the World War, M Rec **99** 595 (April 9) 1921

to the condition of the patient, degree and duration of disability, and when the life of the patient is threatened by the presence of the projectile"

Occasionally, in the field of operation, one may find the remains of a persistent thymus

Knife wounds are usually penetrating and single Bullet wounds are apt to be perforating or double, and this is especially true if the wound is on one side of the chest, and the fluoroscope shows the projectile on the other

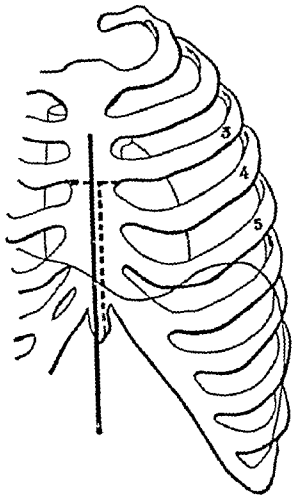

Fig 11—Site of median thoracophrenic laparotomy after Costantini

Digital pressure is the procedure of choice in controlling bleeding from the heart Such methods as the pinching of the vena cava at the base with the thumb and index finger, and pinching the base of the ventricle, have their drawbacks because a dangerous anemia is created, grasping of the edges of the wound with Kocher forceps may cause further tearing in the muscle

It is impossible to avoid the endocardium in suturing wounds of the auricles because of their thin walls For this reason, Villar proposed ligature *en masse*, after grasping the edges of the wound with artery forceps Searching for foreign bodies is to be avoided, as this organ takes care of projectiles admirably The hemorrhage is to be checked at once, but if the projectile is under the finger, the myocardium should be incised and the projectile extracted

Wounds of the trunks of the coronary arteries are fatal, and death results before they are seen by the surgeon When branches of the coronary arteries are wounded, these vessels require ligation at both ends as Dumenici first recommended, because they may bleed later and a resulting hemopericardium may be fatal

*Prognosis in Cases in Which Operation Was Performed*

| Cases | Deaths Number | Mortality Per Cent |
|---|---|---|
| 221 ventricular wounds | 118 | 53 |
| 36 auricular wounds | 14 | 38 |
| 119 left ventricular wounds | 65 | 55 |
| 102 right ventricular wounds | 53 | 52 |
| 23 wounds of coronary arteries | 10 | 44 |
| 213 knife injuries | 111 | 52 |
| 74 projectile injuries | 35 | 47 |
| 13 wounds of the abdomen associated | 10 | 99 |
| 27 wounds of the lung | 19 | 70 |
| 128 hemopericardium | 49 | 38 |
| 48 hemothorax | 27 | 57 |
| 62 hemothorax and hemopericardium | 43 | 69 |

The pericardium can be drained, but, if there is a pulmonary wound, it must be cared for and the wound of the pleura closed if infection is to be avoided

If manipulation of the heart should cause it to stop during the operation, simple, gentle massage is employed This however, is of no avail when the arrest is caused by exhaustion of the heart muscle

Costantini states that up to the year 1919, the average mortality was about 50 per cent, hemorrhage being the greatest cause and infection next

The heart takes care of blockage better than it does of open exposure

Postoperative complications, such as intermediate hemorrhage, may result when catgut is used in suturing the cardiac wound, because it has a tendency to soften and give way Embolism may occur from separated portions of the endocardium It is diagnosed by characteristic symptoms observed immediately after operation

Infection after hemorrhage is the predominant cause of death, about 50 per cent of all the patients surviving the first twenty-four hours developed infections When it occurs, it usually involves the pleuropericardial surfaces Instances have been reported in which recovery followed the drainage of a purulent pleurisy

I would refer those interested in the surgery of the heart to Costantini's paper,[4] from which I have drawn freely

31 North State Street

## RELATIVE BLOOD CELL VOLUME IN PULMONARY TUBERCULOSIS*

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AND
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MILWAUKEE

Attempts at a clinical classification of patients with pulmonary tuberculosis have been rather arbitrary In our studies on the pathologic physiology of the blood in tuberculous patients, a record was also made of the volumetric division of blood specimens into corpuscular (cell) content and plasma (fluid) content The relative blood cell volume combines, among other things, the factors of cell numbers, cell size, and hemoglobin capacity A classification of our cases grew out of the data obtained when the clinical symptoms were correlated with the relative corpuscular volume That the blood changes in the tuberculous do mean something has long been the opinion of practitioners, because in pulmonary tuberculosis of the chronic ulcerative type a secondary anemia is, to a certain extent, one of the indexes of the patient's condition This secondary anemia cannot, however, be proved to be consistently present, although alterations in the blood are known to play an important role in tuberculosis

When the cell count and hemoglobin determinations failed to help in judging the condition of a patient, it was shown that our volumetric data were always significant and equally consistent for the same persons The volumetric determination of the blood's corpuscular content by centrifugating oxalated blood at high velocities is an old method, and the technic and methods are reviewed in the more extensive handbooks of physiology Whipple and his co-workers[1] have recently included this determination in their extensive studies on blood volume Two elements of error are apparently present in our method The question of diurnal variation in blood volume is closely bound up with the problem of the water balance of the body[2] because water is ingested in greater amount than all other substances combined and it is no less the chief excretion[3] In spite of this fact, it has been demonstrated that the introduc-

* From the Research Laboratory U S Tuberculosis Hospital Soldiers Home

1 Hooper Smith Belt and Whipple Am. J Physiol 51 205 (March) 1920

2 Rowntree L G Physiol Rev 2 116 (Jan) 1922

3 Henderson L J The Fitness of the Environment Am Naturalist 47 105 1913

tion (by mouth) of large volumes of water into normal persons alters the blood concentration little, or not at all [4] It is the nature of the organism to maintain its actively circulating fluid, the blood, in constant proportions [5] Therefore, blood dilution does not readily occur, and this fact makes our method quite reliable However, owing to the present uncertainty of *total* blood volume methods, it seems that a study of the relative distribution of the major constituents of the blood is of greater clinical value This has also been emphasized by Barbour,[6] who says that the best criteria in blood volume changes are those which depend on the least soluble and most constant elements of the blood, namely, the corpuscles

## METHOD

Ten cubic centimeters of actively circulating venous blood was withdrawn and added immediately to 2 c c of 1 6 per cent sodium oxalate solution which had been previously placed in a graduated centrifuge tube of 15 c c capacity In order to mix the blood thoroughly, the tube was inverted three times, stoppered with cotton or cloth, and centrifugated at high velocity for half an hour or longer The graduated tube of the Sahli hemoglobinometer can also be used for this work, in which case 2 c c of blood is added to exactly 0 4 c c of oxalate solution The corpuscular deposit was subtracted from the total blood inserted in the tube, and the percentage by volume calculated The age, weight, height, red blood cell count, hemoglobin value, duration of the clinical signs of tuberculosis, and the present condition of the patient were recorded The relations of these factors and certain questions of technic will be considered in a later paper Blood was taken from both healthy and tuberculous persons, whose ages ranged from 21 to 35, with a few up to 48 years

## REPORT OF CASES

Our first determinations showed that the relative blood cell volume was fairly constant for the same person over a period of time Healthy or normal men had relative corpuscular volumes of from 44 5 to 48 per cent , that is, the corpuscles centrifugated and sedimented out in a sample of blood were equivalent to from 44 5 to 48 per cent by volume of the total sample of blood drawn This substantiates the figures of Schmidt and Arronet,[7] who give 47 88 per cent for man, and of Schafer,[8] who gives 48 per cent as an average normal

Forty tuberculous men who were examined could thus be classified into three groups Class A was the group whose relative corpuscular volume was above 48 per cent which is the highest figure in the normal group, and the figures go up to 52 4 per cent , about one half are in this class The figures for Class B coincided with those for the healthy men Class C was the group below 44 5 per cent , with some as low as 40 per cent

The fact that the tuberculous patients could be grouped into three classes stimulated inquiry in reference to the clinical status and progress of the cases, particularly those in Class A and Class C There are no cases of incipient tuberculosis at this hospital Still further comparisons demonstrated that our method provided a far better index of the patients' status, than hemoglobin values and red blood cell counts (Table 1)

Table 1 gives the averages for each group examined, and, in addition, the fourth column gives the resultant of the average red blood count multiplied by the average hemoglobin percentage This gives a figure which is to a certain extent also an index of the status of the patients in the *group* For example, the normals are 45, but Class B has less hemoglobin, and therefore it is 41

TABLE 1.—*Blood Finding Averages for Each Group*

| Group | Relative Blood Cell Volume, Range, per Cent | Average Red Blood Cell Count | Average Hemoglobin, per Cent | Red Blood Cell Count × Hemoglobin |
|---|---|---|---|---|
| Normals | 44 5 - 48 | 4,752 000 | 95 | 45 |
| Tuberculous, Class A | 49 - 52 4 | 5,061 350 | 97 | 49 |
| Tuberculous, Class B | 44 5 48 | 4,732 000 | 86 | 41 |
| Tuberculous, Class C | 40 44 | 4,390,000 | 80 | 35 |

What is true, however, for an entire group does not apply to every individual in that group, as is readily seen by a comparison of those in each group In Table 2, cases are shown in which there are high and

TABLE 2.—*High and Low Red Blood Cell Findings in Each Group*

| Group | Red Blood Cells | | Hemoglobin, per Cent | | Corpuscular per Cent | |
|---|---|---|---|---|---|---|
| | High | Low | High | Low | High | Low |
| Normals | 5 000,000 | 4,520 000 | 110 | 90 | 47 0 | 47 5 |
| Tuberculous, Class A | 5 108 000 | 4 689 000 | 95 | 80 | 50 9 | 52 4 |
| Tuberculous Class B | 5 354 000 | 3 968 000 | 95 | 80 | 45 9 | 46 0 |
| Tuberculous Class C | 4 998 000 | 3,868 000 | 80 | 70 | 41 0 | 42.0 |

low red blood cell counts in each class, but the corpuscular volume is about the same for the high as for the low ones In other words, there is some other factor involved in classifying the groups, a factor apparently not related to either the red blood cell count or the hemoglobin If the high blood counts, from 4,998,000 to 5,354,000, were examined, one would readily say that each of those concerned had a good blood picture, but the corpuscular volume percentage indicates the contrary, and is directly related to the clinical condition of the patient An examination of the records shows that all in Class A are responding favorably to treatment and developing increased resistance Those in Class C are doing poorly, and failing more or less rapidly Class B patients must be analyzed further and watched for a period of time before any decision can be made, although, in general, the patients are in fairly good condition

A question arises in reference to both Class A and Class C For Class A there seems to be a similarity of corpuscular volume response to Weigert's law for the development of immune bodies in the blood stream, that is, more than enough are created The men in Class A are doing well, there is something in the blood that does not stop at the normal range, from 44 5 to 48 per cent , but goes beyond it, overshoots the mark, as it were, up to 52 4 per cent , at least temporarily The term "temporarily" is used for there are some that have been observed for a period of only five months In Class C, on the contrary, there seems to be an exhaustion of some element

## SUMMARY

The chronic ulcerative type of pulmonary tuberculosis is quite commonly accompanied by, or rather, responsible for a disintegration of certain blood elements The significance of the factor of relative corpuscular volume has not been emphasized heretofore

4 Underhill, F P, and Pack, G T Am J Physiol **66** 520 (Nov ) 1923
5 Haldane, J S, and Priestly, J J Physiol **50** 296, 1916
6 Barbour, H G Am J Physiol **67** 366 (Jan ) 1924
7 Schmidt and Arronet in Nagel's Handbuch der Physiologie, 1910
8 Schafer Textbook of Physiology **1** 149, 1898

The relative blood cell volume bears a constant relation to the patient's condition A high value is found in those who are progressing favorably, and a low value in those who are rapidly deteriorating physically

## ROENTGEN-RAY THERAPY OF POLIOMYELITIS

PRELIMINARY REPORT*

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AND
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In the infantile paralysis clinic of the Hospital for Joint Diseases, during the summer and fall of 1923, there was a marked increase in the number of cases of poliomyelitis of recent development, as compared with previous nonepidemic years For the most part, the new cases were very mild, the paralysis being limited to a few muscles, and the recovery of power being rapid Very early in the summer, however, we were impressed by the frequency of hyperesthesia as a dominant symptom This was noted in patients who entered the clinic both in the acute stage and in the period of early convalescence, after the febrile manifestations had subsided

Hyperesthesia as a dominant symptom is characteristic of the polyneuritic type of the disease [1] Biesalski states that this type is present in about 6 per cent of the cases [2] The percentage of our 1923 series was considerably higher than this It was not, however, the mere presence of hyperesthesia that attracted our particular attention, but rather the marked persistence of the symptom weeks and even months after the subsidence of the acute stadium The pain of which these patients complained added considerably to the difficulties of the early treatment In several cases, there was spasm of the uninvolved muscles which threatened to cause the early development of marked deformities Two cases exhibited such spasm of the hip muscles that there was absolute resistance to all motions of the hip, so that roentgenograms were made to exclude pathologic changes in the joint Several of these patients showed severe spastic equinus, which was difficult to control in plaster or splints, owing to the hyperesthesia of the gastrocnemius muscle when subjected to the slightest stretching We were unable to institute massage on account of the aggravation of the pain, and any form of electrical stimulation was manifestly contraindicated

The frequency with which we encountered these cases and the many difficulties involved in carrying out any rational treatment caused us to seek some therapeutic means of relieving, or at least shortening, the hyperesthetic period in such patients We had already begun, in 1922, a research on the effect of stimulating doses of radiation applied to the involved spinal segments in chronic cases of poliomyelitis, and it also was determined to submit some of the more persistent of the hyperesthetic patients to radiation

Each year brings reports of new therapeutic applications of roentgen-ray and radium irradiation During the last few years, our attention has been focused on intensive therapy, which utilizes for the most part the destructive and necrotizing powers of radiation Current medical literature is replete with reports of intensive roentgen-ray and radium therapy and researches, totally eclipsing the no less important stimulative therapy with which we are concerned in this presentation

The results in stimulative roentgen-ray therapy have been attributed to increased activity of metabolic processes, particularly phagocytosis, and to biochemical changes similar to those established in the production of immunity [3] While the stimulating effects of small doses of roentgen and radium irradiation are generally conceded, and such doses and effects are being utilized daily, nevertheless, reports of histologic studies of effects of stimulating doses are entirely lacking

It is therefore our intention to report, in the very near future, histologic studies of effects of stimulative roentgen-ray irradiation on various tissues, including nerve structures, these researches have already been started, but are not advanced to a stage permitting reporting on, at this time

Studies of the biologic effects of small doses of roentgen irradiation have been made by Nakahara and Murphy [4] The conclusions from their investigations may be thus summarized Doses of roentgen rays will increase the number of lymphocytes in the blood and increase the number of mitotic figures in lymphoid organs, and mice so irradiated show a high resistance to cancer transplants

In summarizing the effects of roentgen rays and radioactive substances on the living cell, Loeb [5] stated that "weak intensities of the rays may stimulate motility, excitability of nerves and metabolism, greater intensity may weaken or destroy them"

Obersteiner [6] observed that lethal doses of radium irradiation had no specific effect on nerve tissue The derangements are fully explained by the circulatory disturbances consequent to injury to small vessels

Okada's [6] investigations with very intensive irradiations, sufficient to produce ulcerations, found a pronounced immunity of nerve structures to radium

Harley and Finze's [6] observations are undoubtedly most important They conclude that nerve cells are not to be considered as sensitive to roentgen rays Most of the changes occur in the blood vessels and consist principally in collections of red blood cells which have passed into the perivascular lymphatics, distending them, the extravasations frequently extending into the surrounding neuroglia

These observations with intensive radium irradiation are interesting, and if one but applies the fundamental rules of proportion so concisely expressed by Loeb above, the rationale of irradiation therapy in poliomyelitis becomes obvious

From the foregoing, it appears logical to conclude that roentgen-ray or radium irradiation might offer a singularly efficient and easily applied method of stimulating the diseased anterior horn cells of the cord By actually stimulating metabolism in the cells and the adjoining tissues, definite relief of profoundly disturbing symptoms, as well as improvement in the paralysis, has been secured

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* Read before the orthopedic section of the Academy of Medicine Feb 15 1924

From departments of roentgenotherapy and poliomyelitis Hospital for Joint Diseases

1 Osler William Principles and Practice of Medicine New York, 1918 p 336

2 Biesalski cited by Lange Fritz Lehrbuch der Orthopadie Jena 1922 p 194

3 Witherbee W D Treatment of Focal Infection of the Throat by X Rays Compared with *Surgical Removal of Tonsils* and Adenoids J Radiol 3 129 (April) 1922

4 Nakahara W and Murphy, J B Studies on X Ray Effects J Exper Med 35 475-486 (April) 1922

5 Loeb Leo Effects of Roentgen Rays and Radioactive Substances on Living Cells and Tissues Am J Roentgenol 9 497 501 (Aug) 1922

6 Cited by Colwell and Russ Radium and Its Action on Living Tissue London 1905 pp 221 224

New reports of clinical effects of stimulating doses of roentgen rays are of frequent occurrence and of constantly enlarging scope How indispensible stimulative roentgen-ray therapy is in the dermatologist's practice is common knowledge The efficacy of stimulative roentgen-ray therapy in clearing the throats of diphtheria carriers has been demonstrated by Hickey,[7] and later confirmed by others More recently, stimulating doses of roentgen rays have been applied by Bowditch and Leonard [8] and others in the treatment of whooping cough, with apparently most satisfactory results The value of stimulative roentgen therapy in surgical tuberculosis is indisputable, it is practiced almost uniformly throughout Europe and extensively in America [9]

In a previous article,[10] one of us called special attention to the therapeutic advantages of stimulating doses of roentgen ray Special attention was called to the analgesic and antispasmodic effects of this type of therapy, as well as the curative effects, and the case reports included such improvements and cures as definitely to indicate roentgen-ray therapy as a most useful agent in the surgeon's and the orthopedist's armamentarium The gratifying and frequently spectacular results led us to apply stimulating doses of roentgen irradiation in recalcitrant cases of poliomyelitis

The doses used have been stimulating only and applied with crossfire-filtered technic to the spinal segments involved Treatments were given at weekly intervals with the following factors from ten to fifteen minutes' duration, 4 mm aluminum filter, 5 ma and 100 kilovolts, from 12 to 15 inch distance Exposures were made alternately on the anterior and the posterior surfaces of the body at the level of the involved spinal segments

The types of cases treated may be divided into two general classes—one, in which stimulation of the diseased anterior horn cells was desired, with the objective of improvement in the paralysis, and a second, in which the irradiation was given to overcome the persistent hyperesthesias so far unresponsive to any form of therapy

## CASES OF CHRONIC PARALYSIS

This investigation was confined to a series of cases of chronic poliomyelitis that had remained in a stationary stage for a sufficiently long time to preclude much hope of further improvement This work was instituted on the hypothesis that even in such cases of poliomyelitis with severe paralysis, there may exist, in the anterior horns of the involved segments of the cord, nerve cells of diminished vitality, but not wholly necrotic, which might be influenced by stimulating doses of radiation If such an effect could be secured, if only to a slight degree, this therapeutic measure would be of inestimable value in the treatment of severe cases in the chronic stage in which little or no muscle power is present

Pathologic sections of affected areas of the spinal cords taken from patients with paralysis of long standing furnish enough evidence to justify an attempt to confirm this hypothesis on a partially empiric basis Many such sections show the ganglion cells of the anterior horns diminished in number and size, but not entirely obliterated There is, in addition, a widespread sclerosis [11] However, the vascular supply of the anterior horns is not obstructed The degenerative changes are the result of pressure necrosis, and are not due to thrombosis [12] Radiation in the presence of such a pathologic condition is, we feel, not without a definitely logical foundation Roentgen rays in proper dosage have a proved stimulating effect on cell metabolism It is also an established fact that the roentgen rays will influence a lysis of fibrous tissue If either one of these effects can be obtained by radiation of the involved spinal segments in old cases of poliomyelitis, we should, with some logical basis, expect improvement, provided the muscles have not become entirely fibrosed during the period of inactivity

## REPORT OF CASES

CASE 1—H S, a girl, aged 2 years and 8 months, became ill, July 8, 1921, at the age of 8 months, with a high fever which lasted for four days There was no pain, and no severe general symptoms Paralysis was first noticed on the fourth day, it extended rapidly, involving both lower extremities severely, there was mild involvement of the abdominal muscles and the spinal muscles When examined in our clinic, March 12, 1923, the child had severe paralysis of both lower extremities, the paralysis being apparently in the stationary stage The child was receiving massage and electrical treatment, but was wearing no apparatus On account of the severity of the paralysis, there was little deformity present The left side was the most severely involved On this side there was complete paralysis of the flexors and extensors and the internal rotators of the thigh, the extensor quadriceps and the anterior and posterior tibial muscles

We decided to submit the child to stimulating doses of roentgen rays According to the technic described herein, the child was given a series of treatments, the spinal segments being irradiated from the upper level of the twelfth dorsal to the lower level of the second lumbar vertebra Eleven treatments were given over a period of four months

The immediate effect of the treatment was the production of slight roentgen-ray sickness with malaise, and occasional vomiting after each treatment A gradual but definte improvement was observed in each of the subsequent examinations At the most recent examination, Feb 1, 1924, the flexors and extensors of the thigh, the internal rotators, and the extensor quadriceps on the left side, which had been completely paralyzed on the first examination, showed a moderate degree of activity A general improvement in the power on the right side was apparent This child, at the beginning of treatment was unable to stand without being held upright, and without exhibiting excessive genu recurvatum on both sides The child is now able to stand upright, and is making attempts to walk The genu recurvatum is present, but it is noticeably lessened in degree

This patient has showed marked improvement under treatment, and the mother, an intelligent woman, confirms our opinion that the improvement had its inception with the institution of the roentgen-ray treatments We are at present beginning a second series of irradiations on this patient, and hope to report further on the results

CASE 2—H O, a boy, aged 3 years, suffered an onset of paralysis, Nov 11, 1922, the illness beginning with pain in the back, fever and headache The paralysis was first noticed on the second day of the disease, it involved both legs, on the third day, the right arm was involved The child received almost continuous hospital treatment until August, 1923, and

7 Hickey, P M Treatment of Diphtheria Carriers by Means of Roentgen Ray Am J Roentgenol **9** 319 (May) 1922

8 Bowditch, H J, and Leonard, R D Treatment of Pertussis by X Ray Boston M & S J **188** 312 (March 8) 1923

9 The limited scope of this paper does not permit further reference to clinical reports of additional recent applications of stimulated roentgen ray therapy Other reports are given by Kemp, C Roentgen Ray Treatment of Subacute Inflammatory Processes, Deutsch Ztschr f Chir **176** 272 (Nov) 1922 Van Ree, A Roentgen Ray Treatment of Surgical Tuberculosis, Nederl Tijdschr v Geneesk **2** 1985 (Nov 13) 1920 Busit, Aristide Roentgen Ray Treatment of Malaria Policlinico, sez prat **30** 53 (Jan 8) 1923 Schrader, R Treatment of Erysipelas with Roentgen Rays, Therap Halbmonatsh **35** 600 (Oct 1) 1921 Evans, W A X Ray Treatment in Diseases of the Ear, Nose and Throat, J Michigan M Soc **22** 65 (Feb) 1923 Dunham, K, and Norton, Vera An X Ray Study of the Absorption of Tuberculosis Exudates Within the Lung, Am J Roentgenol **10** 112 (Feb) 1923

10 Philips, H B and Finkelstein, H Roentgen Ray Therapy in Chronic Diseases of Bones, Joints and Tendons, New York M J **114** 448 (Oct 19) 1921

11 Holt, L E Diseases of Infancy and Childhood, New York, 1913, p 810

12 Dana, C H Nervous Diseases New York, 1915, p 238

from then until his admission to our clinic, in November, 1923, he was treated in the home On the initial examination there was present a complete paralysis of both lower extremities We were unable to detect a single active muscle below the hips There was also complete paralysis of the lumbopelvic muscles and weakness of the dorsal and abdominal muscles The child was unable to sit upright without assistance Irradiation was started, November 28 The spinal segments from the twelfth dorsal to the second lumbar vertebra were radiated Five treatments were given, at one week intervals December 17, eleven days after the first irradiation, very slight power was detected in the extensors of both thighs December 24, after the child had received four treatments, slight power was observed in the internal hamstrings and in the flexors and extensors of the toes on the right side, and in the hamstrings on the left side Jan 7, 1924, one month after the inception of the treatment and after the child had received five treatments, definite activity was observed in the following muscles

Right side Flexors and extensors of the thigh, extensor quadriceps, hamstrings, flexors and extensors of the toes
Left side Flexors and extensors of the thigh, extensor quadriceps, and hamstrings

The most marked improvement was shown on the right side There can be little doubt as to the general improvement in this case after the inception of roentgen-ray treatment The child, on the last examination, was able to sit up for a brief period without support The mother remarked on the last mentioned feature as definite evidence of improvement We expect to continue irradiation in this case

CASE 3—B B, a boy, aged 10 years, became ill, Sept 12, 1923, with headache, followed by a fever which reached 103 F There was vomiting during the first day of the illness, and the child complained of pains in both legs Paralysis was first noticed on the second day, both lower extremities very rapidly became severely involved He was first brought to our clinic, October 12, one month after the onset At this time, he had complete paralysis of the right lower extremity, and severe involvement of the left lower extremity He was placed under our routine treatment for early cases of poliomyelitis, which in this case included massage, sinusoidal electric stimulation, and proper splinting to prevent contractures Under this treatment there was a gradual increase in power in the partially paralyzed muscles of the left side, but, with the exception of very slight power noticed in the flexor and extensor muscles of the thigh, there was no activity regained in the totally paralyzed muscles on the right side

In view of the severe involvement of the right leg and thigh at the end of the fourth month of the disease, this patient was irradiated, Jan 10, 1924 January 31, after he had received two irradiations, there was a decided increase in the power of the flexors and the extensors of the right thigh, slight power in the abductors and the external rotators, and marked action in the quadriceps extensor on the right side The left side continued to show improvement April 11, after he had received nine irradiations, there was a general improvement in all of the muscles of the left side On the right side there was marked activity of the flexors, the extensors, the abductors the adductors and the rotators of the thigh, and the quadriceps femoris showed activity There was no shortening present and very little atrophy on the right side

### HYPERESTHETIC CASES

In this group, we submitted only those patients to irradiation in whom the hyperesthesia existed as a dominant symptom in undiminished severity for a period of at least a month In these subjects, the elimination of the pain was essential before contractures could be corrected or even prevented, and rational treatment of the paralytic phenomena was thwarted by the pain these children suffered whenever handled

Prior to irradiation, the patients in the cases cited below had been handled by immobilization on frames, a modification of the Jones frame, with the equinus corrected, so far as the sensitivity of the gastrocnemius soleus group would permit, being used in most cases, massage had been interdicted, and no electrical stimulation had been used In spite of this sedative treatment, the patients failed to show any improvement in the hyperesthesia

CASE 4—A A, a girl, aged 6 years, became ill, July 7, 1923, with marked stiffness of the neck, followed by fever which lasted for three days and reached 103 F Paralysis was noticed in both feet on the third day On the fourth day, the child complained of severe pain in both legs This pain had persisted for more than a month when she entered our clinic On the initial examination, she showed marked hyperesthesia of the muscles of both lower extremities Motion of any of the joints caused the child to cry from pain, and very slight pressure on the muscles elicited pain Detailed muscle examination was rendered impossible on account of the hyperesthesia A complete paralysis of the quadriceps, the hamstrings, the anterior and the posterior tibials and the peronei on both sides was present The gastrocnemius soleus group on both sides were active and hyperesthetic Bilateral equinus was present

In view of the hyperesthesia, irradiation of the involved spinal segments was instituted, August 16 The child was given two treatments, on the 16th and the 23d, respectively August 27, when the child was examined, the hyperesthesia was markedly diminished, so that it was possible to correct the equinus and put both feet in posterior plaster splints without eliciting painful reactions in the calf muscles After this, there was no return of the hyperesthesia, and it was possible to institute massage and electrical treatment The total duration of the hyperesthesia up to the institution of the roentgen-ray treatment was forty days The duration of the hyperesthesia after the institution of treatment was eleven days

CASE 5—A S, a boy, aged 2 years and 9 months, became ill, Sept 19, 1923, with fever, which rose to 104 F on the third day The child was lethargic and slept most of the time Paralysis was first noticed on the third day, it involved one hand and one foot From the fourth to the seventh day, there was widespread paralysis, involving all four extremities and the laryngeal muscles December 4, on admission to our clinic, the child was markedly hyperesthetic, and cried continuously while being examined There was spastic fixation of both hips in abduction and very slight flexion Motion of the hips was resisted in all directions On account of the hyperesthesia, an accurate, detailed muscle examination was impossible There was a severe paralysis of both lower extremities below the hips The child was placed on a frame with the feet held in a neutral position, but the hyperesthesia continued undiminished December 17, on account of the marked spasm and pain in both hips, a roentgen-ray examination of the hips was ordered, it was reported negative It was noticed, the following week, that there was a very slight, but noticeable, diminution of the hyperesthesia in the hips We are of the opinion that this can be attributed to the small amount of radiation which the child received when the hips were roentgenographed Jan 18, 1924, on account of the undiminished persistence of the hyperesthesia, the patient was referred for irradiation January 23, he was irradiated for fifteen minutes, from the tenth dorsal vertebra to the coccyx For three days following this treatment, the mother reported that there seemed to be some increase in the pain The child vomited several times during these three days January 30 on examination a marked improvement was noticed For the first time during the course of the disease, the child submitted to examination without crying, and in fact, was playful and smiling The spasticity and sensitivity of the hips was markedly diminished In addition to the sensory improvement there was a distinct increase in the muscular power in both legs The duration of the hyperesthesia up to the institution of irradiation was 126 days, marked improvement was noticed seven days after irradiation The patient is to receive further irradiation

CASE 6—M F a boy, aged 10 years, in October, 1923, began to suffer with pain and stiffness in the right hip The following day, he had headache and vomited, and the temperature rose to 102 F Paralysis was first noticed on the fourth day Both lower extremities were severely involved, and the right upper extremity was involved to a

lesser degree When first examined by us, December 22, the child was exquisitely hyperesthetic in both lower extremities, in spite of the fact that he had been confined to bed on his back since the onset of the disease The child was observed until the beginning of March, 1924, and during this time was treated by splinting of the lower extremities, with absolute recumbency He was also given very gentle massage and warm salt baths, during which he was encouraged to attempt motions of the paralyzed extremities The hyperesthesia, however, continued with but very little diminution

Feb 28, 1924, the patient was irradiated at the level of the lumbosacral cord area March 9, there was a definite improvement in the pain On examination, it was possible to flex the hips and knees to right angles without eliciting pain Prior to this, pain was elicited by very slight motion of the hips or knees on both sides March 31, after the child had received the second irradiation, there had been malaise and vomiting and a slight improvement in the hyperesthesia since the previous examination This case has exhibited a distinct amelioration of the painful manifestations, after a persistence of the hyperesthesia for four months prior to the institution of irradiation

CASE 7.—A G, a girl, aged 3 years, was taken sick, about the middle of September, 1923, with vomiting and fever, which reached 102 F, and which lasted four days At the onset of the disease, the child complained of pain in both hips On the fourth day of the illness the child was unable to stand on her feet or to sit erect A diagnosis of poliomyelitis was made at a local hospital after a lumbar puncture had been made

When first seen by us, Feb 7, 1924, the child exhibited an apparently complete paralysis of the anterior and the posterior tibial and of the peroneal muscles on the left side, and a decided weakness of the anterior and the posterior tibial muscles on the right side The dominant symptom, however, was the exquisite hyperesthesia of the lower extremities Both knees and hips were held spastically fixed, the left hip in flexion adduction, and the right hip in flexion abduction The knees were flexed slightly Any attempt to move these joints elicited pain Roentgenograms of the hips showed no pathologic change in the bone

The child was irradiated, February 7 and 21, after having been hyperesthetic for more than four and a half months February 29 after having received two irradiations, there was a very distinct improvement in the hyperesthesia At this examination it was possible to flex the knees and thighs without eliciting much pain In this case, however, there has not been a total cessation of the pain The patient is still under observation

## SUMMARY

Notwithstanding the fact that this is only a preliminary report, the results obtained are sufficiently satisfactory to warrant further investigations of this character on a larger scale

We have studied the effects of irradiation in two distinct phases of poliomyelitis, namely

1 In the residual paralysis in patients who, under the usual therapy, have ceased to show improvement in muscular power Three patients with severe paralysis, each of whom were irradiated, had failed to respond to the usual physical therapeutic measures These patients all showed improvement following a series of irradiations of the spinal segment One of these patients had had total paralysis of both lower extremities for more than a year, and exhibited a return of some activity in muscles on both sides after having received four irradiations The other two patients showed improvement, although perhaps less striking than in the case cited We would emphasize the fact that, apart from slight manifestations of roentgen sickness, none of these patients exhibited any deleterious effects on the neuromuscular system Up to the present time, it would appear that the treatment is without danger when properly controlled

2 In the hyperesthetic cases following the acute phase of the disease Four patients exhibiting marked persistent hyperesthesia were irradiated with extremely encouraging results All of these patients showed marked improvement within a week after the first irradiation of the involved spinal segments

## CONCLUSION

We therefore feel justified in concluding that

1 Roentgen-ray therapy offers a method of shortening the period of hyperesthesia following the acute stage of poliomyelitis

2 Roentgen-ray therapy offers a singularly safe and easily applied method of stimulating diseased but viable anterior horn cells in poliomyelitis in the stationary stage

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# KIDNEY INFECTION DUE TO MICROCOCCUS PHARYNGITIDIS-SICCAE*

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Infection of the upper urinary tract by *Micrococcus pharyngitidis-siccae* must be exceedingly rare, for, so far as we have been able to determine from the literature at our command, the occurrence of such an infection has never been reported A case of acute, malignant, vegetative mitral endocarditis, due to this organism, has been recently reported by Schultz[1]

Lingelsheim[2] mentions this organism as one of those less frequently found in cultures from the nasopharynx in cases under examination during an epidemic of meningococcus meningitis, but his report does not state whether this diplococcus was found in cases actually diagnosed as meningitis He makes no suggestion as to its being other than a saprophyte of the pharynx

According to Jordan,[3] this small, gram-negative coccus is found on the mucous membrane of the respiratory tract, it grows at room temperature as well as at 37 C, it forms white, firm, dry adherent colonies, and it ferments saccharose, lactose and mannitose

The accompanying case report is worth while not only because it records an infection of the kidney due to an exceedingly rare cause, but also because it illustrates the importance of a thorough study of every case in which there is a disturbance in the proper functioning of the kidney

## REPORT OF CASE

*History*.—J E R, a man, aged 29, who entered the hospital, May 31, 1923, stated that he had suffered with a steady, dull pain over the left side of the abdomen, extending to the loin, frequency of urination associated with burning, and loss of weight He had had several small boils on the arms and on the back of the neck in 1912, 1913 and 1914, these disappeared without treatment Two carious teeth had been removed in December, 1922 These were the only incidents of infection

During a hike in June, 1918, the present illness began with a dull ache over the left side of the abdomen, associated with a mild frequency of urination during the day, and somewhat excessive at night The pain was noticeable only when walk-

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* From the Genito-Urinary Service of U S Veterans' Hospital No 76

1 Schultz O T Acute Vegetative Endocarditis with Multiple Secondary Foci of Involvement Due to Micrococcus Pharyngitidis Siccae J A M A 71 1739 (Nov 23) 1918

2 Lingelsheim Klin Jahrb 15 409, 1906

3 Jordan, E O A Text Book of General Bacteriology, Ed 7, Philadelphia, W B Saunders Company, 1922, p 251

ing The patient stated that his rest at night was not disturbed, nor was he required to be absent from duty Five weeks later he was subjected to heavy shell fire, and sought safety in a shell hole, where he remained for sixteen hours As a result of this exposure, he was thoroughly chilled and had to be carried back to camp This exposure markedly accentuated the distress in his side for a day or so It then decreased, and was almost forgotten in the excitement of "going over the top," two days later His condition caused no interference with his duties for the next three weeks, but a short train ride again sharply called his attention to the trouble In August of the same year, he suddenly developed a urinary obstruction, which persisted for one day This condition was relieved by the expulsion of a medium-sized stone

In October, 1918, he was sent to a hospital for a gunshot wound of the left knee A severe inflammation of the joint followed, but no operation was performed until the removal of the shell fragment in February, 1919 While in the hospital, he experienced an increase of the pain in the left side, and in the frequency of urination, amounting to from six to eight times during the day and from three to five times at night, which necessitated the constant presence of a urinal in the bed Toward the end of the year some improvement occurred, but the pain never wholly disappeared The bladder trouble diminished sufficiently to allow him to leave his bed In January, 1919, he was transferred on a train from a French to an American hospital As a result, the pain in the side became much more severe, and there was a noticeable extension into the groin The severity of the distress underwent very slight variation It persisted day and night as a dull pain, which had a tendency to remain localized between the left costal border and the anterior portion of the iliac crest It was never suggestive of colic and was always associated with a marked tenderness of the entire left side He left the hospital the latter part of February, with some abatement of the severe symptoms and with considerable gain in weight and strength After a month's convalescence in a casualty camp, he was sent back to the United States, arriving at Camp Upton, N Y, May 5, 1919 The ocean trip was uneventful except for the fact that during the last day considerable fever developed, the pain increased, and urination became more frequent This attack lasted for several weeks May 14, the left kidney was explored through an oblique lumbar incision, and found to be full of pus About 1 quart of the purulent fluid was immediately drained off, and a rubber tube was inserted into the kidney and left in place for four weeks A number of small calculi were expelled through the tube in the course of a few weeks The patient stated that the operation had failed to relieve him In June, 1919, there was a second obstruction of the urethra by a stone, which was removed with a lithotrite under general anesthesia The patient's general condition gradually improved, and he was able to leave the hospital in July The wound had closed and there was little pain, but there was still considerable frequency of urination but no burning Cloudiness of the urine was still present The patient worked as a printer and managed to remain in his position for ten months, losing only an occasional day's time About November, 1919 the urine again became cloudy and irritating, the frequency rose to ten times a day and from three to five times at night, periods of discomfort, with frequent chills, came on, and the patient's weight dropped from 130 pounds (59 kg) to 98 pounds (44 5 kg) During 1921 and 1922, cystoscopy was done several times, but the patient, when we saw him, did not know the results of these examinations From May, 1922, until May, 1923, he led an outdoor life felt almost well and gained 35 pounds (16 kg) The pain in the left side remained unchanged, although the frequency of urination decreased considerably

*Examination*—The patient was of medium height and was fairly well developed, but considerably underweight His skin was warm and dry with a peculiar sallow color There was an oblique scar, 4 inches long, over the left loin, a result of the former kidney operation It had thoroughly healed and was neither bulging nor tender Much tenderness was present over the left side of the abdomen, and was less severe in the loin Palpation elicited a sharp muscle spasm Neither kidney was palpable, and the course of the ureters and the suprapubic region were normal The rest of the physical examination was negative

Blood examination, June 21, 1923, showed white blood cells, 21,400, August 30, 16,200 Wassermann tests were negative on two separate examinations Blood cultures were negative in June and July, 1923 July 14, 1923, the blood analysis showed urea, 23 6, creatinin, 0 15, uric acid, 4 6 July 30, it showed urea, 25 0, uric acid, 5 4, creatinin, 0 2 mg per hundred cubic centimeters

Urinalysis revealed ropy mucoid material resembling the addition of sputum On microscopic examination an enormous number of pus cells became visible, but there were no red blood cells An occasional hyaline cast was present Smears for tubercle bacilli were negative Guinea-pig inoculations were negative for tuberculosis The culture yielded a pure growth of *Micrococcus pharyngitidis-siccae*

Roentgenograms on plain films revealed a large, rounded mass in the usual position of the left kidney, roughly circular in outline, and about 14 or 15 cm in the vertical diameter Several small, dense shadows were visible within the borders of the mass

Cystoscopy revealed the capacity of the bladder as being 250 c c There was much congestion of the entire base, but no ulceration, stone or tumor evident Both ureteral orifices were normal, and No 6 catheters were passed into the kidney pelves without difficulty or obstruction The urine from the right catheter was clear and of amber color, and flowed in about the usual rate, with no pus or red blood cells The left kidney failed to deliver urine at first, repeated priming and aspiration produced a small amount of thick, grayish, semisolid substance, in nature not unlike tapioca pudding, and extremely foul-smelling Ten or fifteen minutes later, the flow of thinner fluid began and gradually changed to the consistency of water The left side constantly contained large amounts of pus

*Results of Examinations of Specimens of Urine from Bladder and Kidneys*

| | Bladder | Right Kidney | Left Kidney |
|---|---|---|---|
| Culture | Heavy, sticky growth | Sterile | Heavy sticky growth |
| Albumin | Trace | Trace | Positive |
| Casts | Negative | Negative | Negative |
| Red blood cells | Negative | Occasional | Negative |
| Pus | 100 cells per 4 mm field | Few | 75 100 cells |
| Phenolsulphonephthalein Test | | | |
| | First appearance | 3 minutes | None |
| | First 30 minutes | 13% | None |
| | Second 30 minutes | 7% | None |
| | Total | 20% | None |

The pyelogram showed a complete destruction of the kidney

The cultural characteristics of the organism isolated from the urine of the bladder and the left kidney were as follows Colonies on blood agar were well defined, white, small and dry, the growth was extremely tenacious, behaving like a drop of soft chewing gum in snapping off from the platinum loop when lifted up The colonies could not be teased apart, and emulsification in saline solution was impossible With one exception, the fermentation reactions coincided with the ones given by Zinsser,[4] as pertaining to *Micrococcus pharyngitidis-siccae* The result of the fermentation tests with the more or less commonly used carbohydrates was as follows dextrose, acid, maltose, acid levulose, acid, saccharose, acid, lactose, acid, galactose, negative, mannite, acid, adonite, negative, dulcitol negative, raffinose, negative, arabinose, negative The organism was a small gram-negative coccus occurring in pairs, normally found as a harmless organism in the pharynx[5]

*Clinical Course*—The patient stated that he had had a steady, severe pain over the left side on the evening following the cystoscopic examination The pain increased decidedly the next day and was accompanied by a sensation of fulness in the region of the left kidney Vomiting was frequent The urine had decreased in amount, was much clearer, and showed only a few pus cells on microscopic examination This strongly suggested that the left ureter had become completely

4 Zinsser Hans Textbook of Bacteriology Ed 5 New York D Appleton & Co 1922 p 535

5 Schultz (Footnote 1) reported a case of fatal endocarditis with multiple metastatic foci in liver spleen and kidneys in which the blood culture showed a pure growth of this organism

obstructed The following day there was evidence of beginning toxemia, as manifested by increased vomiting, intractable hiccup, restlessness and mental confusion A definite fulness could be palpated over the left side of the abdomen, the old kidney scar was bulging, and the entire region was extremely tender and rigid The temperature rose to 39 C, with a pulse rate of from 100 to 110 A diagnosis of acute obstruction of the left ureter was made Several attempts to drain the left kidney by ureteral catheterization failed completely, as it was impossible to enter the pelvis, nor could urine be secured from this side Our diagnosis was confirmed by further roentgenograms, which revealed an enormous increase in the size of the mass in the left side

*Operation*.—Three days after the onset of the obstruction, the left kidney was exposed through an oblique lumbar incision and found to be an enormously dilated, tense, thick-walled sac, extending from below the iliac crest to well up behind the tenth rib It was firmly adherent on all sides on account of dense and vascular adhesions Efforts toward freeing and delivering the mass produced such profuse hemorrhage that complete removal was out of the question A trocar puncture released about 1 500 c c of a thick, whitish fluid, which later changed to thick, creamy pus Several large rolls of gauze were packed tightly around the outside, a rubber tube inserted into the sac, and the wound loosely closed A specimen of the aspirated fluid on culture yielded an organism identical with that previously secured from the bladder and left kidney Direct smears and guinea-pig inoculation were negative for tubercle bacilli A small, smooth calculus, about the same size as that seen in the first roentgenograms, which escaped through the drainage tube several weeks later, consisted of phosphates

## ACUTE APPENDICITIS IN CHILDREN*

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This paper is based on an analysis of fifty-eight cases of acute appendicitis in which we have operated at the University Hospital, since September, 1920 These were consecutive cases, the last patient having been operated on during the first month of the present year All of the cases were diagnosed as acute appendicitis, and the pathologic report confirmed the operative diagnosis Cases in which a diagnosis of acute appendicitis was made but was not confirmed by the pathologic examination have been omitted Of these there were two cases

### DIAGNOSIS

Diagnosis is complicated in children for numerous reasons Small children cannot clearly describe symptoms, nor do they accurately localize pain The classical symptoms of pain, nausea and vomiting, tenderness, rigidity and elevation of temperature are frequently observed in children who are not suffering from appendicitis

Many writers on the subject have erroneously stated that the pain of appendicitis in children varies because of the variations in the position of the appendix, depending, as it does, on the rotation of the colon and the descent of the cecum This is, however, fallacious since the appendix receives its nerve supply through the abdominal sympathetic in embryonic life This innervation is a constant one and does not depend on the anatomic position of the appendix Disturbed action of the sympathetic nervous system as the result of a lesion in the appendix is the chief cause of symptoms as long as the inflammation is localized to the appendix The sympathetic fibers make constant connections with the various spinal segments Since the sympathetic does not contain pain fibers, the sensation of pain is in some way associated with a reference of the stimulus to the cutaneous distribution of the spinal nerves, with which the sympathetic makes its central connection

Hurst has pointed out that tension is the only adequate stimulus that produces true visceral pain Therefore it is probable that tension within the appendix initiates the stimulus that calls forth the sensation of pain in the terminal distribution of the tenth and the eleventh intercostal nerves Pain, therefore, which is an invariable symptom of appendicitis, is at first referred to the region of the umbilicus

When the inflammation spreads to contiguous structures, the pain is felt in the right iliac fossa or in whatever location the appendix happens to be It is this secondary pain that is diagnostic as to the exact anatomic position of the organ This pain is an expression of irritation of the somatic sensory nerves and the result of inflammation of the subperitoneal tissues

The sudden relief of the primary pain denotes perforation or gangrene It is not to be looked on as of good prognostic import Rather, it is to be looked on as the patient's defeat, since the lesion has passed from one of a benign to that of a malignant character

Tenderness is difficult to interpret in the fretful child It is apt to be deceiving, and is more often exaggerated than underestimated

Rigidity of the involuntary type is extremely important Rigidity is a reflex protective mechanism Just as long as the inflammation is appendicular in character, the rigidity will remain in the right lower abdomen When, however, the inflammation spreads beyond the appendix, the rigidity will depend on the amount and the location of peritoneal extension

In the present series of cases, we have found that the preceding symptoms and signs plus a marked increase in the leukocytes are the most dependable factors in making a diagnosis The average white cell count was 16,920 cells per cubic millimeter This is in close accord with Motley's figure of 17,400 per cubic millimeter There is nearly always an increase in the polymorphonuclear leukocytes, which ranges from 80 to 96 per cent Routine differential counts were not made, but, in those recorded, not one was found under 80 per cent

Nausea and vomiting are not to be relied on as of diagnostic import in children After the age of puberty, they have a definite clinical significance, but before this the frequency with which they occur in childhood makes their presence only confirmatory in character In this series, patients having fever numbered fifty-four, patients complaining of nausea, forty-four, patients complaining of vomiting, forty-three, patients complaining of constipation, thirty-four, and patients purged with one or more cathartics, twenty-nine

The diagnosis is not always an easy one The surgeon must always be openminded in these cases It is important to rule out infections of the pleura and lungs Nevertheless, in those patients admitted with a diagnosis of acute appendicitis, the discovery of a pulmonary infection should not cause an immediate reversal of the diagnosis In two of our cases, there was coincidental lobar pneumonia and acute appendicitis

In infants, severe appendicitis may occur without any of the classical symptoms In older children, the reaction to inflammation is apt to be more severe than in the adult

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Rectal examination is extremely important, since the pelvis is shallow, a condition that allows of easy palpation Then, too, in many children the cecum lies deep in the pelvis, which makes palpation easy In these children, urinary symptoms may predominate owing to the proximity of the appendix to the bladder wall

AGE INCIDENCE

The youngest child operated on in this series was 4 years old Only 34 4 per cent of the cases occurred in the first ten years It will also be seen that the number of cases increased in nearly a step-ladder fashion In Alexander's series, 49 2 per cent occurred from the sixth to the tenth year The point to be emphasized is that although the frequency increases as puberty is reached, infants are not immune to the lesion Thus, Dixon reported a case in a 24 day old child Pollard, Griffith, Goyens, Demme, Savage and Elder have reported verified cases in the first year of life

The ages in our series agree in general with those of other authors in that the disease is uncommon under the age of 5 and that below 3 years of age the disease is certainly rare

PROGNOSIS

The prognosis in these cases is similar to that in the adult If the diagnosis is made early and the operation performed before the inflammation has spread to contiguous structures, the outcome is almost universally favorable In the present series of cases, the average number of days since the onset of the attack was 3 3 The average number of previous attacks of which a clear history was obtained was 2 + Children do poorly under the expectant treatment The omentum is small, and the tendency to localization of peritonitis is not as great as that of the adult It is difficult to carry out the Ochsner method in these patients Acidosis from starvation occurs early, and the sepsis intensifies it The vital resistance of the peritoneum is less, and the danger of metastatic infection greater

It is therefore the policy of this division to operate in all cases in children regardless of the time limit since the inception of symptoms or the condition of the patient on admission

MORTALITY

Of the fifty-eight patients in this series, fifty-four recovered and four died, a mortality of 6 8 per cent This mortality is to be compared with that of Simpson, who reported thirty-four cases, with five deaths (14 7 per cent ) Mitchell reported forty cases in which the inflammation had spread to contiguous structures, with a mortality of 25 per cent Motley's series included thirty-seven children, with two deaths (5 4 per cent ) Gray and Mitchell reported 200 cases, 126 of which were acute, with a mortality of 15 per cent Dowd, in 1905, reported seventy cases, with a mortality of 10 per cent , in 1907, fifty cases, with an 8 per cent mortality, and in 1910, sixty-one cases without a death Alexander reported a series of 500 cases of acute and chronic appendicitis, with a mortality of 3 per cent

There is no doubt that the mortality in children has been reduced in the last decade This reduction is even more striking than in the adult In 1897, Karewski reported the results of six continental surgeons in acute appendicitis in children under 5 years of age The lowest mortality was 15 per cent and the highest 66 6 per cent

Twenty-eight (48 3 per cent ) of the patients in our series had peritoneal extension at the time of operation Twelve of these (42 8 per cent ) had local peritonitis, and seven (25 per cent ) had generalized peritonitis In this series there were four deaths (14 2 per cent )

In thirty cases, the inflammation was localized to the appendix In this series there were no deaths

Twenty-nine (50 per cent ) of the patients were purged before operation In nearly every case the purgation had been repeated

OPERATION

As previously stated, we believe firmly that operation should be performed in all cases of acute appendicitis in children, regardless of the stage of the disease or the condition of the patient The only exception is the apparently moribund patient, and here, too, since the patient has absolutely no chance under expectant treatment, we feel that the surgeon should not hesitate to operate because of a possible increase in his operative mortality Several of the cases in our series were extremely desperate, and the patients recovered after operation We always use the McBurney or muscle splitting incision, since this permits easy access to the appendix and does not expose large areas of the small bowel In many of these cases, no suture of the abdominal wall was attempted

Thirty-six of the patients have been seen in our follow-up clinic, and in only one case was an incisional hernia observed Even should an occasional hernia occur, it is preferable to drain thoroughly through a wide open wound than to use too little drainage through a partially closed incision

In the very young children, it is extremely difficult properly to give enteroclysis, but we have had little difficulty with continuous hypodermoclysis Sufficient doses of morphin have been used postoperatively to keep the patient quiet and, in carefully guarded doses given according to the age of the patient, we have never seen any harm result from its use

The Fowler position has been used in the cases in which the inflammation was not localized, while in the others we have slightly elevated the head of the bed and kept the patient on his right side The average duration of the child's stay in the hospital was eleven days, which is much shorter than the adult patient's with similar lesions on this service We believe that this is an indication of the extraordinary recuperative powers of the child when the primary focus has been removed and the right iliac fossa thoroughly drained

CONCLUSION

The lower mortality of acute appendicitis in children which has been reported in recent years is due to early diagnosis and early reference of the patient to a surgeon for operative intervention The mortality can be further reduced only by an earlier differentiation of these cases from the conditions that simulate it, such as pneumonia, pyelitis, Pott's disease, gastro-enteritis, fecal impaction and intestinal obstruction The mortality in our hands has been as low as, if not lower than, the mortality in the adult with a similar lesion

The administration of purgatives before an absolute diagnosis has been established has been the cause of more harm than any other factor connected with the disease If it is necessary to obtain an evacuation of the bowel before a diagnosis is established, we believe that adequate results can be obtained by the administration of an enema One of the most important factors in establishing the diagnosis is a complete leukocyte count, since in this series it was found to be almost constantly high

# BRONCHIAL ASTHMA AND OTHER ALLERGIC MANIFESTATIONS IN PHARMACISTS

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There is a considerable accumulation of data in the literature on occupational idiosyncrasies, but comparatively little has been written concerning pharmacists and their tendency to acquire protein sensitization to the organic preparations that they handle In view of the widespread interest that has been aroused by the subject of allergy and asthma in general and the ever increasing volume of literature on this subject, the scarcity of reports dealing with the subject under discussion is indeed surprising

Idiosyncrasy following the ingestion of various drugs has been observed and discussed since the early days of medical science This paper, however, deals only with the allergic manifestations due to contact with and inhalation of drugs

In 1920, I[1] reported a case of true anaphylactic bronchial asthma in a pharmacist, aged 29, due to the inhalation of powdered ipecac engrafted on a recurrent seasonal bronchitis Skin tests performed with the many drugs in powder form commonly used were negative, except pulvis ipecacuanhae et opii (Dover's powder), which gave a positive reaction Powdered opium, ipecac and lactose—the constituents of Dover's powder—were then tried, giving a positive reaction only to ipecac in as weak a dilution as 1 100,000 The ingestion of ipecac produced no ill effects referable to the respiratory tract

Widal, Abrami and Joltraim,[2] in 1922, reported two cases of ipecac sensitization in pharmacists Contact with emetin induced eczema in a man, aged 34, and handling ipecac induced asthma in a man of 55

Bernton,[3] in 1923, cited a case of sensitization to the protein of castor bean in a chemist, aged 27, who was engaged in a "drug and plant oil investigation" in the United States Department of Agriculture Exposure to the dust of the castor bean was followed by itching of the eyes, lacrimation, sneezing and rhinorrhea, ending in an attack of asthma A cutaneous reaction was obtained with a drop of the protein solution of the fat free castor bean in a dilution of 1 250,000 Of five other persons engaged in the same work and exposed to castor dust, only one showed a tendency to sneezing The cutaneous reaction in all these cases was negative

The preceding case reports seem to be the only references in the literature dealing with this subject Urged by an impression that allergic symptoms in persons engaged in pharmaceutic and kindred professions are not as infrequent as one is led to believe from the literature, a questionnaire was sent to fourteen manufacturing pharmaceutic houses to determine the possible incidence of sensitization in this professional group The questions were as follows

1 Have any cases of asthma, coryza, lacrimation, spasmodic cough, eczema or urticaria come to your attention that could be attributed to the inhalation of, or contact with, ipecac, lycopodium or rhubarb?

2 Have any other drugs (synthetic or of plant origin) or animal extracts been known to cause any of the conditions or symptoms enumerated?

Answers were received from all Four concerns reported workers suffering with asthma due to inhalation of ipecac and others suffering from urticaria due to contact with emetin solution One of the largest manufacturers of pharmaceuticals wrote that

> The physician in charge of our hospital advises that he has had yearly upwards of 100 calls for services where patients were suffering from bronchial asthma or other evidences of respiratory irritation from dust, chiefly resulting from grinding ipecac Despite our efforts to confine dust in grinding ipecac, the particles would get in the air and affect susceptible individuals at considerable distances from the grinding room We have finally been able to control the trouble from grinding ipecac, until we have now only a few patients who ever come in sufficiently close contact with the drug to experience any trouble

Another firm said that one worker had been forced to leave the laboratory whenever ipecac preparations were being handled, on account of acute asthmatic attacks A third house reported twelve cases of sensitization to emetin solution These cases were characterized by urticaria of the forearms and hands, with intense itching

No cases were reported of affection from exposure to powdered rhubarb or lycopodium

Next to ipecac, the most common causes of asthma are poke root and podophyllin One firm said

> We have experienced some trouble with podophyllin and poke root in causing bronchial asthma, but these cases do not exceed probably half a dozen cases from each drug a year

Three workers suffered from vanillism from handling vanilla beans, with symptoms similar to those noted in the cases in which there was sensitiveness to emetin One worker showed sensitivity by inhalation to urease, which is derived from the jack or soy bean

Two firms reported that several persons were transferred from the drug milling and grinding room, on account of sensitiveness to certain powdered drugs The fact that quite a variety of drugs were handled made it impossible to trace, with any degree of exactness, the causes of asthma in these persons

Powdered bile salts are somewhat irritating and the workers generally wear respirators, but no cases have occurred in which allergic symptoms were manifest

Numerous skin irritations from a variety of synthetic chemicals were noted, but no instances of asthma have occurred in the workers following inhalation

While all the concerns prepared various glandular extracts, four of these were almost entirely devoted to this field It appears that the workers who handle the desiccated glandular extracts experience no inconvenience They do not even wear respirators as a rule However, one firm wrote that

> Epinephrin crystals is the only animal extract noticed to cause any discomfort to our workers, it is very irritating to the mucous lining of the nostrils and the esophagus

Another wrote that

> In the manufacture of pancreatic products there is frequently observed an erosion of the mucous membrane of the nose and throat and of the epidermis of the finger tips This is attributed to the presence of the active proteolytic ferment contained in the products We have, of course, developed a means to meet this situation

It is well known that in an asthmatic subject an attack may be induced purely by mechanical irritation It is possible that some of these preparations, such as bile salts and epinephrin crystals, which our correspondents mention, may excite asthmatic attacks by

1 Peshkin, M M Ipecac Sensitization and Bronchial Asthma, J A M A **75** 1133 (Oct 23) 1920
2 Widal, F, Abrami, P, and Joltraim, L Anaphylaxis to Ipecac, Presse méd **30** 341 (April 22) 1922
3 Bernton, H S Occupational Sensitization to the Castor Bean, Am J M Sc **165** 196 (Feb) 1923

mechanical irritation, and these attacks should not be confused with cases of specific hypersensitiveness These cases can be classified and differentiated by the skin tests If this procedure was carried out in all such cases, greater progress could be made toward their classification and proper management

A careful search of the literature covering a period of 100 years fails to show any case of bronchial asthma or hay-fever caused by powdered rhubarb or lycopodium Therefore the following case reports will be of interest, since they demonstrate unusually rare types of protein hypersensitization in pharmacists

REPORT OF CASES

CASE 1—An unmarried man, aged 27, employed as a prescription pharmacist for the last nine years, the details of whose case report were kindly furnished me by Dr S P Holland, Blakely, Ga, soon after he began handling drugs was seized at irregular intervals with typical symptoms simulating hay-fever These symptoms occurred only when the patient was working in a drug store, and were relieved when he was off duty or unemployed It was not until the summer of 1922 that the patient became definitely certain that the handling of powdered rhubarb, or exposure to it, was responsible for his perennial hay-fever, The past and family histories were irrelevant

Physical examination was negative Aug 24, 1922, Dr Holland performed protein skin tests against rhubarb The skin reaction appeared within one and one-half minutes, presenting a wheal 18 mm in diameter and surrounded by an intense erythema

CASE 2—I T, a man, aged 26, a student at Fordham University School of Pharmacy and employed as an apprentice in a drug store since 1916, referred to me by Dr Jacob Diner, New York, had enjoyed good health until the fall of 1918, when he was first entrusted with the preparation of certain pills in which lycopodium was used as a dusting powder During the first handling of lycopodium, he was seized with violent sneezing, lacrimation and rhinorrhea, ending in an attack of asthma These symptoms were not relieved until half an hour after he left the store He recalled that during the two years prior to the actual handling of lycopodium he had frequent sneezing spasms of short duration while working about the store Following a second but more severe attack of bronchial asthma, one month later, every effort was made to avoid exposure to lycopodium However, soon after this he desired to convince himself that lycopodium was actually responsible for the bronchospasms, so on several occasions he intentionally exposed himself to the powder Each exposure resulted in severe asthmatic seizures Later on, the patient observed that even the handling of lycopodium by another person while he was in the same room always induced a bronchospasm, and that he thereby averaged about two dozen attacks yearly In 1922, he matriculated in the school of pharmacy After he had an attack of asthma in the laboratory, the use of lycopodium in the school was forbidden, and he remained free of all symptoms for one year Oct 22, 1923, lycopodium was again used in the laboratory He was in the third section, two previous classes had employed lycopodium that day On entering the laboratory, he was immediately seized with the most violent attack of asthma he had ever experienced This bronchospasm was of two hours' duration For the following three days he had mild recurrent bronchospasms, with respiratory oppression and wheezing during the intervals of attacks In the last year, his tolerance for lycopodium had become so lowered that the mere entering of a room in which the powder was employed resulted in a very severe attack of asthma

Recently, he had observed that the ingestion of mustard caused respiratory oppression and wheezing for several hours, and that exposure to a cat caused merely sneezing A positive skin reaction to desiccated extract of pancreas revealed the fact that the handling of this drug caused sneezing During the intervals of asthmatic attacks, the patient was entirely free of all symptoms The past history was irrelevant except that the patient's tonsils and adenoids were removed in 1914 A nasal operation was performed one and one-half years after the first bronchospasm, without affording the slightest relief The family history was negative

Physical examination was negative The patient was of excellent physique Skin tests were performed with many drugs in powder form, the reactions to desiccated gland extracts were negative, except lycopodium and the extract of pancreas, which gave positive reactions The reaction to the lycopodium powdered protein presented a wheal of 12 mm with an intense erythema of 4 cm The patient reacted to a dilution of 1 100,000 The reaction to the desiccated extract of pancreas presented a wheal of 8 mm with an intense erythema of 3 cm He reacted to a dilution of 1 100 These drugs were not orally administered for the purpose of observing their effects because of the patient's unwillingness to submit to such a test

Cutaneous tests against 116 food, bacterial, pollen, epidermal and dust proteins resulted in plus minus reactions to cat hair, mustard and banana

CONCLUSION

1 Sensitization to drugs is more common than one is led to believe from the few reports in the literature

2 Ipecac is the most common cause of bronchial asthma in pharmacists and pharmaceutical workers

3 Next to ipecac, the commonest causes of bronchial asthma in pharmacists are podophyllin and pokeroot

4 The handling of emetin solution and vanilla beans causes skin manifestations characterized by urticaria of the forearms and hands, with intense itching

5 Synthetic drugs and desiccated animal gland extracts apparently play no rôle in the causation of bronchial asthma, except that by inhalation they may induce an asthmatic attack by mechanical irritation

6 Rhubarb and lycopodium hypersensitiveness are unusual causes of allergic manifestations in pharmacists

7 The occupations of pharmacist and pharmaceutical worker and their relation to bronchial asthma and other allergic manifestations due to drugs is an important one, it would appear, and deserves more attention

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# A FATAL CASE OF DIABETIC COMA WITHOUT KETOSIS

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R C N a railroad fireman, aged 22, was brought to the House of Mercy Hospital with a story of having been well until three weeks before when he had an attack of some acute infection, which was called grip and which lasted a few days He did not feel well after this and was seen February 15, by his family physician, who found sugar in his urine and discovered that he was drinking large amounts of water, passing large amounts of urine, and was eating hungrily

February 19, he vomited several times during the night This was repeated the following day and February 21, when the vomiting persisted Drowsiness and deep breathing also being noted the patient was brought to the hospital

The family and previous history were negative

The patient was fairly well nourished, the temperature was 96 5 F, pulse 90, blood pressure systolic 42, diastolic 0 The breathing was slow and deep, typical of air hunger The patient was very drowsy, but could be roused and answered questions The right pupil was slightly larger than the left, and both reacted to light and in accommodation The mouth was parched, the tongue very dry The heart sounds were weak with an occasional extrasystole The lungs abdomen and extremities were normal No knee jerk could be obtained A catheterized specimen of urine showed a specific gravity of 1 020, a good trace of albumin, sugar — + + —, no

acetone, no diacetic acid, a few hyaline casts, a few epithelial cells, and a few pus cells The blood sugar was 1 04

The patient was given orange juice and water by mouth in small amounts at frequent intervals and a small amount of 5 per cent glucose by rectum Twenty units of insulin was given intravenously at 7 10 p m and again at 8 10 p m The patient went into deeper coma, and died at 8 30 p m, after having been in the hospital three hours

The necropsy showed the brain normal except that the dura was adherent to the skull over both hemispheres There was a small persistent thymus, the lungs and the heart were normal, in the aorta were well marked yellow patches of yellow atheroma The liver showed a mild grade nutmeg change, the spleen was normal, the stomach was normal in size, and contained a considerable amount of black, watery fluid, the pancreas was normal in size and section The intestines were normal The kidneys showed a mild degree of subacute nephritis

## SUMMARY

In the diagnosis of this case the striking thing was a condition of diabetic coma with high blood sugar but no diacetic acid by the ferric chloride test or acetone in the urine Beta-oxybutyric acid was not looked for, and may have been present, although the absence of casts in any quantity, which are said to accompany the presence of any amounts of this acid in the urine, was rather against it

It seemed possible to rule out the other causes of coma, and the diagnosis of diabetic coma appeared most probable

It has been suggested that dehydration, together with the high blood sugar and sudden onset, may have been the deciding factor of death, or that it may have been due to an acid not yet known

Rosenbloom [1] cites three fatal cases of diabetic coma with no trace of beta-oxybutyric acid, diacetic acid or acetone, with a normal amount of ammonia-nitrogen and no evidence of kidney disease, and suggests the presence of an unidentified acid

McCaskey [2] reports a case of fatal diabetic coma with a blood sugar of 0 66 per cent and acetone in the urine, but no diacetic or beta-oxybutyric acid, and feels that the coma may have been due to some unknown derivative of the acetone group

Joslin [3] records a fatal case of diabetic coma with a blood sugar of 1 37 per cent and no diacetic acid in the urine

Bock, Field and Adair [4] have observed similar cases of diabetic coma that they suggest may be due to an unknown organic acid, not of the ketone group

This case, in conjunction with the cases referred to, would seem to indicate that some types of diabetic coma might be due to an acid as yet not identified

1 Rosenbloom, J A Form of Diabetic Coma, New York M J **52** 294 (Aug ) 1915

2 McCaskey, G W A Case of Fatal Diabetic Coma Without Diacetic or Beta Oxybutyric Acid, J A M A **66** 350 (Jan 29) 1916

3 Joslin, E P A Fatal Case of Diabetic Coma, in Joslin's Treatment of Diabetes Mellitus, Ed 3, p 173

4 Bock, A V, Field, H, Jr, and Adair, G S J Metabol Res, to be published

**Pulmonary Tuberculosis and Hilum Node Tuberculosis**—Pathologically, it is obvious that in considering enlarged lymph nodes which occur in the thorax we are dealing with no special disease In all likelihood, tuberculosis is in the majority of cases responsible for their enlargement But the nodes alone may be involved, either in an acute or subacute stage, or inflammation of neighboring structures may have been extended to them After reviewing the subject, a question difficult to determine pathologically is where and when does hilum tuberculosis terminate and pulmonary tuberculosis begin?—J A Honeij *Am Rev Tuberc* **9** 10 (March) 1924

# TREATMENT OF INJURIES DURING THE ACUTE STAGE BY DIATHERMY

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The work reported in this paper was prompted by the desire to give greater relief to minor injuries not requiring hospitalization The early cases consisted principally of sprained wrists and ankles Previous to November, 1923, these ankles and wrists were treated about as follows Roentgen ray examination ruled out fractures, rest was given to the part, immobilization by casts or splints was employed where pain persisted, the patients were given three 1 grain (0 065 gm ) tablets of powdered opium to be taken at night, codein sulphate, one-half grain (0 03 gm ) was given if the patient was still losing sleep after the second day The patient was advised to apply ice bags for from twenty-four to forty-eight hours, after which soaking the foot or wrist in hot water was recommended It was noticed that several patients disobeyed, and stated that greater relief was obtained during the first twenty-four to forty-eight hours if the part was placed in hot water, even though the swelling increased markedly It was this observation that led me to determine what relief could be obtained by the penetrating heat produced by diathermy

I have always been skeptical of the claims of salesmen for various types of physiotherapy apparatus, and therefore searched the literature for reports of cases Very little has been written about the value of diathermy in treatment of injuries during the acute stage Even such recent works as Massey and Sampson dismiss the subject with three or four lines, saying that diathermy is useful in treatment of sprains, but with nothing more convincing to back it up With this skepticism, I decided that the giving of treatments and the report of results on subsequent days should not be turned over to different assistants, but that I should do all of it myself For this reason, I shall have to be contented to report the results in 186 cases An effort was made to take cases in which objective findings were present as well as confirmatory evidence of injury Doubtful cases of injury were not treated by diathermy, and the rule of "No neuros nor malingerers admitted" was rigidly enforced Over 90 per cent of these cases had undisputed objective findings of injury, either of fracture, hemorrhagic extravasation, laceration, discoloration or muscle fixation

Most of these patients are employees of the American Railway Express Company in Chicago, and were given treatment soon after the injury, preferably on the second or third day The two cuff, cuff and electrolyte, or two plate methods of application were used, depending on the location of the injury Periods of treatment were from fifteen to twenty minutes, and the maximum tolerance of milliamperage given and adjusted during the treatment as necessary The average milliamperage tolerance was about as follows fingers and toes, from 150 to 300, ankles and wrists, from 500 to 750, knees and elbows, from 800 to 1,200, shoulders and thighs, from 1,200 to 1,500, backs, from 1,800 to 2,400

Only two patients received burns, one a small burn of the first degree and the other a 1 by 2 inch third degree burn on the chest It was observed that the pain was markedly exaggerated during the treatment, and patients who were unable to locate a specific point of pain previous to the treatment were able to localize it

exactly during the treatment The best results were obtained when the method of application was such that the exact point of pain received the maximum amount of heat To do this, it was sometimes necessary to give a second treatment, but in the majority of cases only one was given All cases treated by diathermy from November, 1923, to May, 1924, are included in this series None have been discarded as atypical There are 186 cases in all, divided as in Table 1

TABLE 1.—*Distribution of Cases*

| | | |
|---|---|---|
| Contusions and abrasions | | 60 |
| Sprains | | |
| Ankle | 19 | |
| Wrist | 14 | |
| Knee | 9 | |
| Shoulder | 7 | |
| Fingers | 7 | |
| Elbow | 1 | |
| Muscles over iliac crest | 1 | |
| | | 58 |
| Bursitis and myositis | | 19 |
| Tenosynovitis | | 2 |
| Sprained backs | | 16 |
| Slow healing infections | | |
| Lacerations | 4 | |
| Cellulitis | 9 | |
| | | 13 |
| Acute articular rheumatism | | 2 |
| Fractures mostly simple | | 15 |
| Dislocation | | 1 |
| Total | | 186 |

The method of obtaining for record the degree of improvement was difficult to plan Many patients would state that they were very much improved The percentages of improvement and relief from pain were obtained by asking the patient the following question "Considering the pain and discomfort you had just prior to the treatment as 100 per cent, what percentage remains today?" Many reply one half or one fourth or one tenth, and these are expressed in percentages Reports were obtained directly on succeeding days to determine the approximate rate of improvement

Those in which the percentages were less than 3 per cent were considered as practically none, and when this stage was reached, they were soon released for work When they were released they were told that if they had recurrences of pain or further trouble, they should report to me Less than ten patients reported recurrences of pain, and, in those, not adequate to keep them from work The tabulated percentage of improvement and relief of pain are noted in Table 2

TABLE 2.—*Improvement and Relief of Pain in One Hundred and Eighty-Six Patients*

| Days After Beginning Diathermy | No Pain Remains Total Relief | 90% Relief | 75% Relief | 66⅔% Relief | 50% Relief | 40% Relief | 25% Relief | 10% Relief | No Relief |
|---|---|---|---|---|---|---|---|---|---|
| 1st | 13 | 14 | 20 | 6 | 49 | 6 | 10 | 5 | 9 |
| 2d | 13 | 16 | 23 | 3 | 26 | 2 | 5 | | 2 |
| 3d | 20 | 14 | 9 | 3 | 7 | 1 | | | 1 |
| 4th | 15 | 10 | 13 | | 1 | | | | |
| 5th | 8 | 9 | 6 | | - | | | | |
| 6th | 2 | 3 | | | | | | | |
| 7th | 9 | 5 | | | | | | | |

Cases Not Materially Affected by Treatment 12

Temporary Ten Days to Two Weeks Relief of Pain 7

There were twelve cases in which diathermy seemed not materially to have affected the result Three were injuries of calf of the leg, four contusions of bony prominences with periostitis, two tenosynovitis, two alcoholism, and one in which I made the mistake of expecting improvement when the patient's case had been taken up by the industrial board

Two patients were worse on the day following the treatment, the first was a case of bursitis of the shoulder and the second an injured great toe in which the swelling and tenderness of an early paronychia was mistaken for simple contusion Diathermy is contraindicated in infected cases in which adequate drainage has not been established

In seven cases in which recovery was expected to be gradual, diathermy was used to reduce pain The case that best illustrates the use of diathermy in this group is as follows

G S, a man, had had a subacromial or subdeltoid bursitis, and first came under my observation, Oct 1, 1923 At that time there was fixation or pseudo-orthosis between the right humerus and the scapula Even with elevation of the scapula, he was not able to elevate the arm to the level of the shoulder Fortunately, this patient came under observation early enough so that he was sent to the hospital, and, under gas anesthesia, the adhesions were broken These were heard as well as felt because it sounded like tearing cloth The arm was immobilized in an elevated position for four weeks by means of a cast, and he was allowed to go home walking "like the statue of Liberty" The top of the cast was removed, and three weeks later the entire cast removed The pain in starting motion in this arm was the source of greatest annoyance, and the patient would walk the floor at night on account of the pain Large doses of bromids as well as barbital, acephenetidin and opiates gave only temporary relief

Nov 28, 1923, and again two days later, I gave the patient treatment by diathermy December 1, he stated that he had had the first night's good rest in over two weeks, and estimated that about 15 per cent of the pain remained After nearly ten days, the pain recurred, but he returned to work December 11, and called at the office about once in two weeks for diathermy, which gave marked relief The patient used the arm extensively, and the atrophic muscles regained their natural robustness, and when I saw him recently, he had full range of motion of the arm, and measurements revealed no difference in circumference between the right and left arm at same levels Inspection revealed no difference in muscular development in motion of either shoulder

I do not wish to give the impression that diathermy alone was responsible for the end-result in this case, because I feel that the active use of the affected arm and the restoration to normal was accomplished by the patient using his arm But I know that he was not using that arm as he should have after it was taken from the cast, because he was having too much pain, and that, after diathermy, I could give him ten times more active and passive muscle exercise than before

In these cases, then, diathermy is a most valuable analgesic during the period of restoring muscles to their normal state after periods of immobilization that result in atrophy and stiffening of joints The same restoration can be obtained without diathermy, but it can be obtained in less than half the time with diathermy The analgesic effect of diathermy seems to last from ten to fourteen days, and in the fifteen fractures treated in this series, relief was so marked during the first two weeks that I am led to believe that it will come into general use for the relief of pain during the first, second and third days following fractures, that is, during the period we usually apply ice bags and wait for the swelling to subside so that an adequate snug fitting cast may be applied It is far more desirable than opiates and sedatives, and is used to supplement the present methods of reduction, retention and restoration in the treatment of fractures

I should like to say a word of caution against the use of diathermy for every case or every ailment It is not a cure-all, and correct diagnosis is a most essential prerequisite to good results with diathermy Sprained wrists frequently reveal fracture of the scaphoid or

dislocated semilunars, and diathermy can be expected to relieve pain only temporarily in such cases, and only when reduction and accepted methods of treatment are used in conjunction with diathermy

It has been interesting to observe the shortening of the period of temporary total disability in this series of cases Many of the patients returned to work in 50 per cent of the estimated temporary total disability period, and nearly all in less than 75 per cent the estimated time

These results have been obtained in cases of injuries in which compensation is being paid In quite a few of the cases, men were working as extra help receiving cash at the end of each day With this type of individual in a large city, compensation nearly satisfies their wants, and the desire to get well is lacking I only wish to point out that these results are obtained under a handicap, and better results should be obtained when patients pay for their own treatment and stand their own losses for time off

SUMMARY

By the use of diathermy in the treatment of 186 cases it has been found that

1 It is a valuable analgesic during the acute stage of injuries

2 By its use, the pain was reduced more than 50 per cent in all cases during the first twenty-four hours, and 174 patients were more than 90 per cent relieved of pain in less than one week's time

3 Twelve cases were not noticeably affected

4 In seven cases, the rate of restoration of atrophied muscles and stiffened joints was markedly hastened

5 In fifteen cases of simple fractures, diathermy was a most valuable analgesic during the acute painful stage

6 These results have been obtained under difficult circumstances, in that the patients were receiving compensation, and hence their personal desire to get well was not always present

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# CLINICAL CONDITIONS OF ALKALOSIS *

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Alkalosis is the term that has been employed to cover those conditions which are associated with a shifting of the acid-base balance of the blood from the normal definitely to the alkaline side Although this term has been used for several years, and a number of papers have appeared describing conditions in which an alkalosis no doubt existed, the data, with a very few exceptions, have been inconclusive for the reason that the $p_H$ of the blood was not ascertained Our observations lead us to believe that alkalosis is a condition that is much more common than has ordinarily been supposed and has often been overlooked by the clinician

In health, the blood is uniformly maintained at a constant slightly alkaline reaction ($p_H$ of about 7 4) through the influence of the bicarbonate, the phosphate and the proteins of the blood The chlorid shift, whereby the chlorin ion may pass through the cell membrane leaving the sodium ion in the plasma to serve as base, is likewise a factor of importance The bicarbonate, however, plays the chief role in regulating the reaction of the blood, since it is able to furnish approximately three times as much alkali as all other buffers combined Furthermore, the latter exert their influence in large measure through the medium of the bicarbonate

In 1917, Van Slyke and Cullen [1] described a simple method of measuring the so-called alkali reserve of the body by estimating the plasma bicarbonate This method quickly found extensive clinical application, chiefly in conditions of acidosis Van Slyke and Cullen recognized at the time that the plasma bicarbonate would serve as an adequate index of acidosis or alkalosis only as long as these conditions remained compensated, i e, the hydrogen-ion concentration remained normal, but it was believed then that the hydrogen-ion concentration was a physiologic constant and did not change appreciably until shortly before death Subsequent studies by a number of different investigators showed however, that uncompensated conditions do occur, not only in disease but also in normal persons as a result of altered pulmonary ventilation or exercise

The studies of Hasselbalch, L J Henderson, Yandell Henderson, Van Slyke and their co-workers, in particular, have done much to clarify our conception of the acid-base balance Through their work, it has come to be recognized that there is a definite relation among three interdependent variables, sodium bicarbonate, carbonic acid and $p_H$, the determination of any two permitting the calculation of the third Stated in another way, the $p_H$ is a function of the ratio between the sodium bicarbonate and the carbonic acid Anything that will raise the sodium bicarbonate or lower the carbonic acid will raise the $p_H$, and, conversely, anything that will lower the sodium bicarbonate or raise the carbonic acid will lower the $p_H$ VanSlyke [2] was the first to correlate clearly the factors involved in variations in the acid-base balance He pointed out that there are nine theoretically possible variations depending on the fact that the blood bicarbonate may be high, normal or low, and in each of these conditions the $p_H$ may be high, normal or low Conditions with an abnormal blood bicarbonate and a normal $p_H$ are termed compensated alkalosis or acidosis, but compensated in those conditions in which the $p_H$ is abnormal

The acid-base balance may be most easily ascertained by estimating the $p_H$ and carbon dioxid content of the same sample of blood plasma For the carbon dioxid determination, the gasometric method of Van Slyke [3] is available, while Cullen [4] has described an accurate colorimetric method of measuring the $p_H$ Myers, Schmitz and Booher [5] have simplified the technic of the latter method and increased its delicacy

The carbon dioxid content of the venous blood plasma of the normal human adult at rest varies between 55 and 65 per cent by volume The recent studies of Myers and Booher [6] indicate that the $p_H$ of such persons falls

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1 Van Slyke, D D, and Cullen, G E Studies of Acidosis, I, The Bicarbonate Concentration of the Blood Plasma Its Significance, and Its Determination as a Measure of Acidosis, J Biol Chem 30 289 (June) 1917

2 Van Slyke, D D Studies of Acidosis, XVII, The Normal and Abnormal Variations in the Acid Base Balance of the Blood, J Biol Chem 48 153 (Sept) 1921

3 Van Slyke, D D and Stadie, W C The Determination of the Gases of the Blood, J Biol Chem 49 1 (Nov) 1921

4 Cullen, G E Studies of Acidosis, XIX The Colorimetric Determination of the Hydrogen Ion Concentration of Blood Plasma, J Biol Chem 52 501 (June) 1922

5 Myers, V C, Schmitz, H W, and Booher, L E A Micro-Colorimetric Method of Estimating the Hydrogen Ion Concentration of the Blood, J Biol Chem 57 209 (Aug) 1923

6 Myers, V C, and Booher, L E Some Variations in the Acid Base Balance of the Blood in Disease, J Biol Chem, to be published

between 7 35 and 7 43, and that $p_H$ values below 7 32 and above 7 47 are definitely abnormal

Clinical conditions that may lead to alkalosis can be thus enumerated (1) administration of sodium bicarbonate, (2) pyloric obstruction, (3) fever, and (4) deep roentgen-ray therapy It is now generally recognized that severe alkalosis may be accompanied by tetany, although the etiologic relation of alkalosis to tetany is a much controverted question at present

In 1912, Sellards [7] and, in 1913, Palmer and Henderson [8] suggested the use of the alkali tolerance test as a measure of acidosis This test soon came into quite general clinical use, and it had the advantage that it combined a diagnostic with a therapeutic procedure In 1917, Palmer and Van Slyke [9] considered the question of alkali retention from the standpoint of the blood bicarbonate, and wrote "Our results show that in pathologic conditions there is danger of giving unnecessary and perhaps injurious amounts of bicarbonate if administration is continued until the urine turns alkaline This fact may explain the disapproval under which the perfectly rational alkali therapy has fallen with some clinicians" That Sellards [7] appreciated this point is evident from the following statement made in his original paper "I am inclined to think that one of the most important factors to determine is whether changes do occur in the kidney which render it incapable of excreting anything but an acid urine after the introduction of an excess of bicarbonate into the body"

Recently, toxic manifestations following the administration of sodium bicarbonate have been noted by a number of investigators Tetany was observed following the intravenous administration of sodium bicarbonate to three children suffering from diarrheal acidosis by Howland and Marriott,[10] and likewise by Harrop [11] in an adult with anuria Grant [12] has reported two cases of tetany due to overdosage with sodium bicarbonate, while Hardt and Rivers [13] have noted that patients with duodenal ulcer, treated by the Sippy method, may develop definite symptoms of toxemia associated with renal changes None of the foregoing workers determined the $p_H$, but the carbon dioxid combining power of the blood was found high where estimated Binger, Hastings and Neill [14] have recently reported observations in a case in which the $p_H$ was raised to 7 55 after bicarbonate administration They say, "The case is reported to show that definite untoward results may follow the administration of sodium bicarbonate, and to point out the character of certain of these untoward results"

That pyloric obstruction may result in alkalosis (and tetany) owing to the loss of hydrochloric acid by vomiting was shown experimentally in dogs by McCann [15] and by MacCallum [16] It has likewise been observed in the human subject by Grant,[12] and more recently by Brown, Eusterman, Hartman and Rowntree,[17] Youmans and Greene,[18] and McVicar [19] These workers have all observed an increased blood bicarbonate, but the $p_H$ was not ascertained

As first pointed out by Collip and Backus [20] and by Grant and Goldman,[21] voluntary overventilation may result in alkalosis (and tetany), owing to the increased excretion of carbon dioxid, thus disturbing the $NaHCO_3$ $H_2CO_3$ ratio Koehler [22] has recently recognized the presence of a similar condition in acute clinical fevers He has reported observations on the $p_H$ and carbon dioxid in fifteen cases of fever, the $p_H$ reaching 7 60 in one case with a carbon dioxid of 47 When the fever was sufficiently high, the alkalosis was found to result in distressing symptoms

Hussey [23] has observed a condition of uncompensated alkali excess in rabbits following roentgen-ray exposure, while Myers and Booher [6] have apparently encountered a similar condition in a human subject

Conditions of alkalosis have been overlooked in the past for the reason that the clinical symptoms are not readily recognized or easily defined Symptoms that may be noted, however, are headache, lassitude, nausea, vomiting, fever and, in some severe cases, tetany Not infrequently, alkalosis appears to have been mistaken for acidosis, leading to alkali therapy, which aggravated the condition

Therapeutic procedures that one might naturally think of employing in alkalosis are administration of acid phosphate or hydrochloric acid and bloodletting, but the efficacy of these agents cannot be compared with that of sodium bicarbonate in the treatment of acidosis When once developed, alkalosis is very difficult to alleviate

The accompanying table presents data on twenty cases of uncompensated alkalosis, the alkalosis being due to alkali excess in all except the last few cases, in which it was due to carbon dioxid deficit as an indirect result of fever The $p_H$ estimations furnish definite proof of the alkalosis in all these cases, but the cause of the alkalosis in the individual cases cannot always be given for the reason that alkalosis may be accompanied by vomiting and fever, which in themselves lead to alkalosis

The direct cause of the alkalosis in the first ten cases tabulated was sodium bicarbonate administration Four of these were patients with ulcer undergoing Sippy treatment, one was a case of diabetes, two were cases of nephritis, two patients received alkali after cholecystectomy, and one after oophorectomy The alkalosis in Patients 11 to 16 was apparently due to loss of hydrochloric acid from vomiting, while in Patient 17 it was probably dependent on the roentgen-ray therapy In the

7 Sellards A W The Determination of the Equilibrium in the Human Body Between Acids and Bases with Special Reference to Acidosis and Nephropathies Bull Johns Hopkins Hosp **23** 289 1912

8 Palmer W W and Henderson L J Clinical Studies on Acid Base Equilibrium and the Nature of Acidosis Arch Int Med **12** 193 (Aug) 1913

9 Palmer W W and Van Slyke D D Studies of Acidosis IV Relationship Between Alkali Retention and Alkali Reserve in Normal and Pathological Individuals J Biol Chem **32** 499 (Dec) 1917

10 Howland John and Marriott W M Observations upon the Calcium Content in the Blood in Infantile Tetany and upon the Effect of Treatment by Calcium Quart J Med **11** 289 (July) 1918

11 Harrop G W Jr The Production of Tetany by the Intravenous Infusion of Sodium Bicarbonate Bull Johns Hopkins Hosp **30** 62 (March) 1919

12 Grant S B Tetany A Report of Cases with Acid Base Disturbance Arch Int Med **30** 355 (Sept) 1922

13 Hardt L L and Rivers A B Toxic Manifestations Following the Alkaline Treatment of Peptic Ulcer Arch Int Med **31** 171 (Feb) 1923

14 Binger C A L Hastings A B and Neill J M Edema Associated with Moderate Bicarbonate Administration During Convalescence from Pneumonia Arch Int Med **31** 145 (Jan) 1923

15 McCann W S Carbon Dioxide Combining Power of the Blood Plasma in Experimental Tetany J Biol Chem **35** 353 (Sept.) 1918

16 MacCallum W G Lintz J Vermilye H N Leggett T H and Boas E The Effect of Pyloric Obstruction in Relation to Gastric Tetany Bull Johns Hopkins Hosp **31** 1 (Jan) 1920

17 Brown G E Eusterman G B Hartman H R and Rowntree L G Toxic Nephritis in Pyloric and Duodenal Obstruction Renal Insufficiency Complicating Gastric Tetany Arch Int Med **32** 425 (Sept) 1923

18 Youmans J B and Greene I W Clinical Alkalosis in Gastric Disease J Michigan State M S **23** 160 (April) 1924

19 McVicar C S A Discussion of the Clinical and Laboratory Findings in Certain Cases of Obstruction in the Upper Gastro Intestinal Tract Proc. Am Gastro-Enterol A May 1924

20 Collip J B and Backus P L The Effect of Prolonged Hyperpnea on the Carbon Dioxide Combining Power of the Plasma the Carbon Dioxide Tension of Alveolar Air and the Excretion of Acid and Base Phosphate and Ammonia by the Kidney Am J Physiol. **51** 363 (April) 1920

21 Grant S B and Goldman A A Study of Forced Respiration Experimental Production of Tetany Am J Physiol **52** 209 (June) 1920

22 Koehler A E Acid Base Equilibrium I Clinical Studies in Alkalosis Arch Int Med **31** 590 (April) 1923

23 Hussey R G The Influence of X Rays on the Properties of Blood J Gen Physiol **4** 511 (May) 1922

last three patients (18 to 20) the fever played a prominent rôle, although in Patient 19 disturbed liver function may have been the important factor

From an inspection of the table it will be noted that Patients 1 and 3, undergoing Sippy treatment, at first showed a compensated alkalosis (high bicarbonate but normal $p_H$) which later became uncompensated With discontinuation of the alkali, the $p_H$ first returned to normal in Patient 3, but in Patient 4 the $p_H$ remained high after the return of the bicarbonate to normal In Patients 6 and 7, who both had nephritis, the carbon dioxid content never exceeded the normal limits with the exception of the last day in Patient 7 Nevertheless, the administration of alkali raised the $p_H$ to 7 53 and 7 51, respectively Such findings indicate that data on both the $p_H$ and the bicarbonate are necessary to secure an adequate index of the acid-base balance

There is evidence to show that, in certain cases, alkalosis is readily produced by bicarbonate administration for the reason that the kidneys do not readily eliminate alkali It may be noted that only small amounts of alkali were administered to Patients 5, 6 and 7, while in Patients 7 and 10 the reaction of the urine remained strongly acid ($p_H$ 5 2 and 5 12, respectively) despite the alkalosis This is a topic we plan to enlarge on in a later paper

The term acidosis was originally coined to apply to the ketosis occurring chiefly in diabetes, and ketonuria was at one time thought essential to a diagnosis of acidosis Although ketosis generally leads to acidosis, it is not necessarily incompatible with alkalosis, as is evident from the findings in Case 5 The patient, who had diabetes with a blood sugar of 0 288 per cent, and ketonuria, showed the highest $p_H$ (7 60) we have encountered Cyclic vomiting has likewise been looked on as a condition of acidosis due to the ketonuria Vomiting with loss of hydrochloric acid leads to alkalosis, unless the kidneys are able to compensate by eliminating a corresponding amount of base The $p_H$ in Patient 11, suffering from cyclic vomiting, was 7 52 It is interesting to note that the reaction of the urine remained acid

It will be observed that somewhat higher figures for the bicarbonate have been obtained in Patients 12 to 16, in whom the alkalosis was due to pyloric obstruction, than in Patients 1 to 10, receiving alkali If sufficient alkali is administered to patients that do not readily excrete alkali, however, equally high figures for the blood bicarbonate may be obtained We have observations [24] on a number of such cases, although the $p_H$ was not determined at that time

The relation of alkalosis to tetany is a much controverted question at present While the frequent occurrence of tetany in conditions of alkalosis seems beyond dispute, the evidence that the tetany is a direct result of the alkalosis appears inconclusive Although a number of our cases showed more or less pronounced symptoms of tetany, we do not feel that we are in a position to express an opinion on this subject at present We might mention, however, that Patient 15, who appears to

*Cases of Uncompensated Alkalosis*

| | Case No | Age | Sex* | Date | $p_H$ | Carbon Dioxid, C c to 100 Content† | Capacity | Diagnosis and Comment |
|---|---|---|---|---|---|---|---|---|
| 1 | J B | 15 | ♂ | 7/ 3/23 | 7 40 | 75 | | Gastric ulcer Sippy treatment begun July 1 |
| | | | | 7/26/23 | 7 49 | 66 | | |
| | | | | 7/29/23 | 7 50 | | 68 | |
| 2 | F G | 38 | ♂ | 2/23/24 | 7 46 | 66 | | Gastric ulcer Sippy treatment |
| | | | | 3/12/24 | 7 45 | 68 | | |
| 3 | B N | 31 | ♂ | 2/28/24 | 7 41 | 80 | | Gastric ulcer Sippy treatment |
| | | | | 3/ 3/24 | 7 47 | 83 | | |
| | | | | 3/ 7/24 | 7 43 | 67 | | |
| 4 | M S | 61 | ♂ | 10/29/23 | 7 53 | 70 | 70 | Duodenal ulcer Sippy treatment alkali discontinued October 31 |
| | | | | 10/31/23 | 7 53 | 70 | | |
| | | | | 11/ 2/23 | 7 52 | 56 | 59 | |
| 5 | L C | 62 | ♀ | 12/ 5/23 | 7 60 | 75 | 76 | Diabetes alkali given before admission marked edema, ketonuria, died |
| 6 | M L | 65 | ♂ | 12/17/23 | 7 53 | 63 | | Chronic interstitial nephritis sodium bicarbonate given but discontinued |
| | | | | 12/21/23 | 7 41 | 58 | | December 18 frequent vomiting at one time patient showed tetanic movements and twitching of muscles of face and arm |
| 7 | M J | 38 | ♀ | 2/26/24 | 7 50 | 63 | | Cardiorenal disease (acute nephritis) anemia, received small amounts |
| | | | | 2/27/24 | 7 51 | 61 | | of sodium bicarbonate during whole period of observation some |
| | | | | 2/28/24 | 7 48 | 52 | | fever twitching of fingers urine more acid than $p_H$ 5 2, February |
| | | | | 2/29/24 | 7 49 | 58 | | 28 died March 8 |
| | | | | 3/ 1/24 | 7 48 | 55 | | |
| | | | | 3/ 6/24 | 7 40 | 69 | | |
| 8 | N W | 52 | ♀ | 4/ 9/23 | | | 98 | Cholecystectomy April 6, received 40 gm of sodium bicarbonate, first |
| | | | | 4/ 9/23 | 7 52 | 83 | 87 | carbon dioxid 6 hours before second estimation April 9, tempera |
| | | | | 4/10/23 | 7 45 | 79 | 79 | ture 100 4 F frequent vomiting |
| 9 | F H | 11 | ♀ | 5/ 3/23 | 7 49 | 76 | | Cholecystectomy April 23 received sodium bicarbonate by rectum |
| | | | | | | | | temperature 102 4 F intestinal obstruction, frequent vomiting |
| 10 | A W | 48 | ♀ | 4/12/24 | 7 55 | 62 | | Bilateral ovarian abscesses operation April 7, continued sodium bicar |
| | | | | | | | | bonate therapy April 9 to April 12 continued vomiting, tempera |
| | | | | | | | | ture 101 F and $p_H$ of urine 5 12 April 12, died April 13 |
| 11 | M L | 12 | ♀ | 12/ 6/23 | 7 52 | 67 | | Cyclic vomiting diagnosis acidosis on admission, received one dose of |
| | | | | 12/17/23 | 7 52 | 70 | | sodium bicarbonate blood chlorids 0 438 per cent, continued per |
| | | | | | | | | sistent vomiting urine acid |
| 12 | A C | 56 | ♀ | 1/17/24 | 7 58 | | 84 | Duodenal ulcer with pyloric stenosis, vomiting gastroenterostomy |
| | | | | | | | | temperature 104 F, January 16 |
| 13 | M K | 35 | ♂ | 1/21/24 | 7 51 | 88 | 88 | Intestinal obstruction excessive vomiting subnormal temperature |
| 14 | F J | 52 | ♂ | 1/22/24 | 7 51 | | 83 | Carcinoma of stomach vomiting postoperative |
| | | | | 1/26/24 | 7 47 | 58 | | |
| 15 | W C | 31 | ♂ | 3/ 3/24 | 7 48 | 98 | | Pyloric obstruction vomiting blood chlorids, 0 263 per cent, tetany |
| 16 | M L | 43 | ♂ | 3/ 7/24 | 7 52 | | 91 | Duodenal ulcer vomiting blood chlorids, 0 406 per cent, calcium chlorid |
| | | | | 3/ 7/24 | 7 52 | 87 | | intravenously March 8 |
| | | | | 3/ 9/24 | 7 51 | 70 | | |
| 17 | B W | 52 | ♀ | 11/21/23 | 7 56 | | | Carcinoma of stomach, roentgen ray therapy, some alkali vomiting |
| | | | | 11/22/23 | 7 57 | 62 | 68 | |
| 18 | C H | 20 | ♂ | 1/31/24 | 7 48 | 52 | | Hodgkin's disease radium therapy temperature, 103 F |
| 19 | D M | 37 | ♂ | 1/12/24 | 7 56 | 67 | | Postoperative hepatic abscess temperature, 102 F |
| 20 | S L | 57 | ♀ | 11/26/24 | 7 51 | 61 | 66 | Diabetes with gangrene, temperature, 102 F |
| | | | | 12/ 6/24 | 7 47 | 57 | | Temperature 100 8 F |

* In this column ♂ indicates male ♀ female
† Calculated on the basis of the bicarbonate

might mention, however, that Patient 15, who appears to

24 Myers, V C Practical Chemical Analysis of Blood, St Louis, 1924, p 110

have had a fairly typical case of gastric tetany, showed the highest blood bicarbonate we have observed, 98, but a $p_H$ only moderately elevated, 7 48

## CONCLUSIONS

Alkalosis is a much more common clinical condition than has ordinarily been supposed Since the clinical signs of alkalosis are not sufficiently definite to permit a reliable diagnosis, the use of laboratory methods is necessary For this purpose the blood bicarbonate alone is generally inadequate, thus necessitating the estimation of the $p_H$ Both of these determinations are needed to secure a reliable index of the acid-base balance

In the past, sufficient caution has not always been employed in the therapeutic use of sodium bicarbonate With impaired ability to excrete alkali, relatively small amounts of sodium bicarbonate will lead to alkalosis

Ketonuria is not an infallible sign of acidosis, since it may exist in the presence of an alkalosis

# *Clinical Notes, Suggestions, and New Instruments*

## A CASE OF MYCOTIC ANEURYSM OF THE GLUTEAL ARTERY *

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Instructor in Medicine University of Cincinnati College of Medicine, and Intern, Cincinnati General Hospital Respectively

*History*—H B, a white woman, aged 24, a worker in a box factory, was admitted to the hospital, Sept 13, 1923, because of pain in the right leg It began suddenly, September 7, in the right gluteal region and upper portion of the right thigh The pain was constant, but not severe in the beginning It slowly descended the leg, and by September 10, was present throughout the entire right leg, from the region of the greater trochanter to the foot, in a general way, it followed the course of the great sciatic nerve The pain on admission was severe enough to prevent the patient from resting or sleeping, and she was kept comfortable only by the aid of analgesics The appetite was very poor The bowels were somewhat sluggish There were no other symptoms of note

The patient's father died of tuberculosis The family history was otherwise of no importance

The patient had never been in robust health, and she had been in particularly poor health during the nine or ten months prior to admission She ran the complete gauntlet of infectious diseases of childhood, having had varicella, scarlet fever, in infancy, measles at 10 and mumps at 11 She had pneumonia twice before the age of 7 Since childhood she had known that she had heart disease, and for many years had suffered attacks of precordial oppression, shortness of breath, on even slight exertion, and occasional puffiness of the feet and ankles She had had a chronic cough during the winter months for several years In January, 1923, she was ill eight weeks, her condition being diagnosed influenza Two months later, she suffered from rheumatic fever and spent six weeks in bed Swelling of the feet and ankles accompanied the rheumatic fever, the edema not subsiding until June Symptoms of pleurisy appeared in May and again in August persisting one week on each occasion In June she developed an acute abdominal condition and an appendectomy and cholecystectomy were performed There was drainage from a right rectus incision until a week before admission to the hospital Since March 1923 she had noticed the sudden appearance of small red blotches the size of a pin-head or slightly larger on the finger tips and the palms of her hands, and occasionally over the upper arms and forearms They were very painful on pressure and appeared at intervals of from two days to three weeks

*Physical Examination*—The patient was poorly nourished, considerably underweight, and lay in bed in considerable discomfort There was no cyanosis, and there were no petechiae Palpable nodes, pea-sized, were noted in both epitrochlear regions Over the right gluteal region there was a smooth rounded mass, 8 cm in diameter and about 1 cm at its greatest depth, showing expansile pulsations synchronous with the heart beats It was not tender, but considerable tenderness was elicited just below it It was semielastic in consistency, and a systolic bruit could be heard over it

The heart was enlarged to percussion as follows Relative cardiac dulness was 12 cm to the left and 3 5 cm to the right of the midline in the fifth interspace The point of maximal intensity was diffuse, 10 5 cm to the left of the midsternal line in the fifth interspace A systolic thrill was palpable over the apex, and in the same region could be heard a long, rough systolic murmur, which almost replaced the first heart sound The second sound was sudden and sharp No diastolic murmur was present, the second pulmonic sound was louder than the second aortic, the pulse rate was 120, the systolic blood pressure, 125, diastolic, 80 The examination otherwise was unimportant

On admission, there was a leukopenia, the white blood corpuscles being 4,700 There was also a moderate anemia, the red blood corpuscles being 3,900,000 The hemoglobin was 65 per cent The differential formula was normal September 17, the white blood count was 4,800 The leukopenia continued for a week after admission, when the white blood count began to increase September 27, it was 7,250, October 1, 11 900, October 3, 10 500 There was also an increase in the red blood corpuscles, the count, September 27, being 4 192 000 There was no material change in the differential formula

Urine examination at various times was negative

Blood culture, September 20, showed streptococci in long chains growing at a reduced oxygen tension

The Widal reaction, September 27, was negative The laboratory examination was otherwise negative

*Course*—The patient was kept comfortable by the administration of one-half grain (0 03 gm ) doses of codein for the intense pain She also received potassium iodid, 10 grains (0 65 gm ) three times a day, and mercuric salicylate, one-third grain (0 02 gm ), twice weekly, because it was thought at first that the aneurysm was syphilitic in origin Later the mass was aspirated with a small needle and pure blood was withdrawn a culture showed *Streptococcus viridans* It was noted steadily after this that the pulsation in the mass became feebler and that the expansile nature disappeared October 4 four weeks after admittance little pulsation remained in the mass, and the bruit could be heard only with difficulty

The patient died two months after admission

*Necropsy Findings*—The body was underdeveloped and emaciated Rigor mortis was not present Postmortem lividity was present, especially over the back and extremities There were scattered over the abdomen and chest petechial hemorrhages, and there were bilateral epitrochlear nodes palpable Over the right gluteal region there was a smooth, rounded elevated mass which was firm to pressure There was an old laparotomy scar in the right lower quadrant, perfectly healed The usual median incision had been made There was a small amount of straw colored fluid in the abdominal cavity The liver extended 5 cm below the costal margin on the right side, and 8 cm below the ensiform cartilage in the median line The spleen was 5 cm below the costal margin There were dense adhesions binding the right lung securely at the base of the thorax The left lung was free, but the pleura was markedly thickened as was also the right pleura The pericardium was greatly thickened and adherent to the myocardium The heart was greatly enlarged The pericardial cavity contained a large quantity of straw colored turbid fluid The myocardium appeared strikingly pale, and there was a small amount of epicardial fat The coronary arteries were normal The heart chambers were dilated, especially on the left side The walls

* From the West Medical Service Cincinnati General Hospital
Read before the Academy of Medicine Cincinnati March 24 1924

were definitely thickened Along the wall of the left auricle there were a large number of densely packed, warty vegetations firmly adherent to the endocardium Scattered over the walls of the right auricle were a few similar growths Along the edges of the mitral valves and along their auricular attachment, the warty growths were especially pronounced and were apparently both old and recent A few growths were observed along the chordae tendineae Along the line of closure of the aortic valve there were accumulations of similar vegetations The tricuspid and pulmonary valves showed no changes The aorta was smooth and elastic

The right lung was removed with difficulty, owing to dense adhesions The pleura was irregularly thickened At the right apex there was evidence of an old healed tuberculous lesion The left lung showed no pleural thickening There were a few moderately enlarged glands at the hilum

The liver was greatly enlarged, the surface was pale, and the cut section showed the changes due to chronic passive congestion There was also a moderate amount of fatty infiltration The spleen was about twice its normal size, and was greatly congested A band of brownish yellow tissue divided the upper third from the lower two thirds Further examination showed that this was an old infarct undergoing caseous degeneration The general markings of the spleen could not be clearly made out, the trabeculae and malpighian corpuscles being obscured by the congested pulp substance

The kidneys were apparently normal in size The capsules stripped with little difficulty, revealing congested capsular surfaces There were scattered infarcts here and there over the surfaces of various size The cut section revealed multiple infarcts undergoing caseous degeneration

In examination of the mass over the gluteal region, on the slightest pressure the knife entered a sac, which was filled with a dense clot about the size of a large orange The center was well organized, and recent accumulations were noted over the outer surface The clot filled the sac, apparently an aneurysm of the gluteal artery It was resting on the sciatic nerve at one point

Microscopic examination of the aneurysmal sac by Dr N C Foot, revealed an inner layer of degenerated vessel wall, often almost destroyed Outside this was an inflamed adventitial stratum, which was edematous and invaded by leukocytes of every description Its vessels were inflamed, their walls thickened and cellular, and often one found emboli and thrombi in their lumina Outside this was a mass of inflamed and degenerated skeletal muscle which showed areas of lymphocytic inflammation There were empty spaces near the adventitia which contained a few giant cells, as though some foreign material had occupied them Many of the endothelial cells that invaded the inflamed adventitia, and the muscle, were deeply pigmented with a golden yellow, granular material, hemosiderin Among the muscle fibers were large rounded masses of what appeared to be degenerated collagen fibers, which, however, may have been much degenerated muscle strands The heart muscle showed characteristic changes indicative of acute and subacute myocarditis There was marked edema of the myocardia

The valve substance was largely converted into granulation tissue The endocardium on one side of the valve cusp was thickened and proliferating The other side of the cusp was continuous with a large mass of "coral bodies," overlaid by ordinary clot Here the endocardium was completely destroyed and the valve substance invaded by leukocytes

The spleen and kidney showed the effects of numerous recent and old infarcts, some of them undergoing necrosis

### COMMENT

It is of interest to note that the patient had complained of symptoms of emboli occurring at the finger tips during the course of her disease before we saw her During the course of her stay at the hospital, she was found to have septicemia

On culture, the blood showed a pure growth of *Streptococcus viridans* In addition to this finding there were signs of progressive septic endocarditis Coincident with this, a mass developed in the region of the gluteal artery, causing excruciating pain along the sciatic nerve This mass showed expansile pulsation and fluctuation, a systolic murmur on auscultation, and on aspiration was found to contain pure blood Culture from this specimen again showed *Streptococcus viridans* Shortly after aspiration, expansile pulsation and the systolic murmur disappeared in the mass, probably because of thrombosis

Libman,[1] in 1906, reported a case with many similar features In that case the patient was operated on and the diagnosis confirmed Later, at necropsy, the causative agent, mycosis, was revealed as the cause of the aneurysm, in this instance in the femoral artery

Libman states that mycosis is generally due to staphylococci or streptococci "At the position of the embolic thrombosis there is first an exudative inflammation, then there is an acute periarteritis with destruction of the media, and the elastica and intima burst As a result of these lesions, there is a bulging of the vessel, and in the wall of the dilatation all layers of the arterial wall are to be found Such a condition must be considered an aneurysm"

It is possible that the aneurysm in this instance developed in much the same way While it is true that mycotic aneurysms are characterized by their multiplicity, still instances have been reported before in which a single sacculation has occurred

19 Garfield Place

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## A CASE OF FATAL ANAPHYLAXIS FOLLOWING THE INTRAVENOUS INJECTION OF ANTI MENINGOCOCCIC SERUM

M I MENDELOFF, M D, CHARLESTON, W VA

The recent article of Lamson[1] impressed me with the fact that the cases of so-called anaphylactic deaths are too few as gathered in the literature, and that physicians do not take the time and trouble to report such cases The case recorded here ended fatally after the intravenous use of antimeningococcic serum

### REPORT OF CASE

W, aged 25, a soldier, was admitted to the meningitis ward of the base hospital, *April 25, 1918*, with a diagnosis that advised observation for cerebrospinal meningitis The patient was taken ill, April 23, with occipital headaches, which were getting worse during the day, the night of the 24th, he vomited He did not sleep on account of headache, and the next morning, he vomited three times

The patient was well developed, was apparently in pain, complained bitterly of headache, and tossed restlessly in bed There was no evidence of paralysis The pupils reacted to light and in accommodation There was no adenopathy, the throat was normal There was no eruption on the body The neck was distinctly rigid, and Brudzinski's sign was suggested There was some hyperesthesia, the abdominal reflexes were diminished, the cremasteric were absent Kernig's sign was present on the right, and absent on the left Examination was negative for the Babinski reflex, and the Gordon and Oppenheim signs The heart and lungs were normal The pubic and axillary hair was scant

A lumbar puncture was done immediately, and under great pressure 30 c c of turbid fluid was withdrawn, and 20 c c of antimeningococcic serum (Rockefeller) was given intraspinally The laboratory report was that the cerebrospinal fluid contained gram-negative meningococci The blood culture was negative

As the patient's condition was growing worse, I decided to administer antimeningococcic serum intravenously A careful history elicited the information that he never suffered from asthma, and that being around horses did not make him sick I began to desensitize him by giving him 0 5 c c of antimeningococcic serum subcutaneously, in a few minutes, five

1 Libman Cases of Mycotic Aneurysm, read before the Mount Sinai Clinical Conference in November, 1906

1 Lamson R W Sudden Death Associated with the Injection of Foreign Substances J A M A 82 1091 (April 5) 1924

urticarial wheals appeared, three on the abdomen and one in each axilla The next dose of 1 c c was given half an hour later, with no untoward results Two cubic centimeters was given in another half hour, and 5 c c in another half hour, with no signs of urticaria and without any symptoms He was then given 15 minims (1 c c) of 1 1,000 epinephrin chlorid solution, and the solution was started very slowly The solution used consisted of 30 c c of antimeningococcic serum in twice the amount of sterile physiologic sodium chlorid solution While the solution was being given, the patient was carefully watched by the nurse When about 60 c c of the solution had been introduced, the pulse suddenly became irregular, the skin cold and clammy, and cyanosis, slight at first, became quite pronounced The injection was stopped, and 15 minims (1 c c) of epinephrin chlorid solution was injected, this was repeated in about ten minutes Atrophin, caffein and vigorous artificial stimulation with cardiac massage were of no avail

POSTMORTEM FINDINGS

Postmortem examination revealed flattening of the brain convolutions, with a purulent exudate over the vertex The sinuses were normal Smears showed the organism of Weichselbaum The cord was edematous and surrounded by a purulent exudate There was a large thymus, and hyperplasia of the spleen, with enlargement of the malpighian bodies The aorta was small There were numerous petechiae in the small intestine

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## DEFECTS IN TEST TUBES AS A CAUSE OF ANOMALOUS REACTIONS

M W LYON JR, M D, SOUTH BEND IND

Most workers in serology or allied subjects in which tests are made in glass tubes and set aside for several hours for reactions to occur have probably obtained results at variance with expectations or, if the tests were done in duplicate, results showing marked disagreement I refer to such experiences as these In a set of colloidal gold tubes all showing no change, one shows a change of 5 In washing erythrocytes in duplicate tubes, the longer the washing the more hemolysis appears in one tube, while the cells in the other tube wash clean In a set of Wassermann tests done with several antigens, a serum showing a negative test with a cholesterolized antigen showed a four plus reaction with a plain extract antigen The tubes in all these instances had been cleaned with the standard sulphuric acid and sodium bichromate mixture over night, and rinsed with running tap water six times and once with distilled water

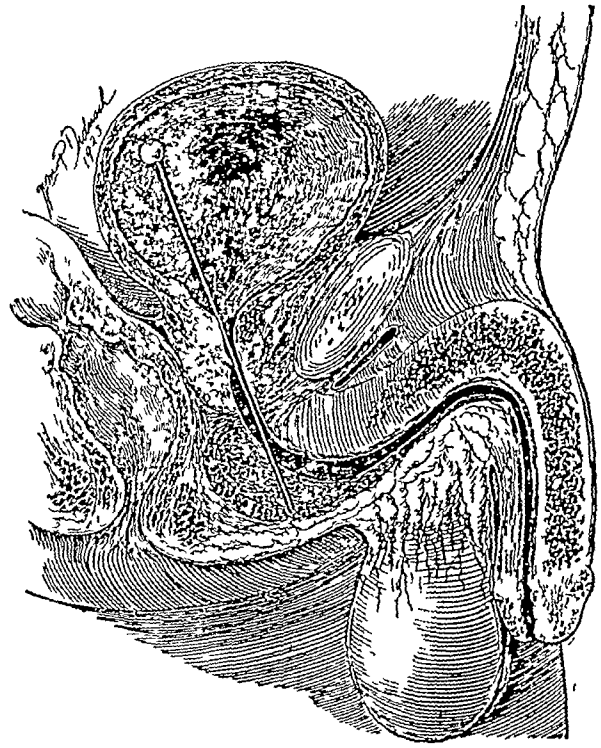
Examination of the tubes in which the anomalous reactions occurred showed that an air bubble had been caught in the glass during the manufacture of the tube, and had been drawn out into a fine capillary tube in the wall of the test tube The thin wall of the capillary on the inside of the test tube had become broken, allowing some of the cleaning fluid to enter the capillary Close examination with a hand lens revealed in some of these tubes small portions of the sulphuric acid bichromate mixture In other tubes, nothing was seen in the capillary tubes, but anomalous reactions occurring in these tubes and slight changes in hydrogen-ion concentration of distilled water placed in these tubes led to the conclusion that traces of the acid mixture had remained in the capillaries Examination of many test tubes revealed a surprisingly large number with capillary tubes in their walls Fortunately, the wall of the capillary in most instances is perfect While the acid cleaning fluid is about the worst that could be used for tubes with the defects described, yet any other fluid aside from distilled water, might influence reactions carried on in such tubes Anomalous reactions resulting from the use of these defective tubes have not led to erroneous conclusions in carefully controlled work, but until the frequency of the capillaries in the walls of test tubes was noticed, such results have been disconcerting as to an explanation of their occurrence

## HATPIN IN MALE URETHRA

CHARLES S LEVY, M D BALTIMORE

In the literature there are many case reports of hatpins introduced into the male urethra In fact, these occurred with such frequency at one time that the *New York Medical Journal* (1910) had an editorial on the subject This type of foreign body has been employed to start the urinary flow in stricture of the urethra and in obstruction caused by prostatic hypertrophy, it has also been used as a form of masturbation

J P, aged 64, had had intermittent attacks of hesitancy in starting the urinary flow On these occasions, he would pass the ball end of a hatpin into the urethra for a distance of 3 or 4 inches On withdrawal, the urine could be made to pass The day the patient was brought to my office, he had introduced the beaded end of a hatpin into the urethra, when it suddenly slipped from his fingers and passed upward Half an hour after the accident, the pointed end of the pin was felt in the perineum The point had undoubtedly penetrated the wall of the bulbar urethra, the corpus spongiosum and corpora cavernosa, and lay free in the subcutaneous tissues By pressure in the perineum, the point might have been made to pierce the skin and the entire length of the hatpin withdrawn externally until stopped by the beaded end Then it might have been passed forward in the reverse direction from which it had been introduced Instead a No 26 F Young's endoscope was employed The hatpin was seen and released from the periurethral tissues by alligator forceps The point was brought into the endoscope, and hatpin, alligator forceps and endoscope all removed together The patient voided blood-tinged urine after this manipulation There were no untoward effects



Position of hatpin in urethra

The pin was 6 inches long

913 North Charles Street

**Agriculture Responsible for Disease Disappearance.**—Bound up with the geographical limitations of certain diseases is the gradual disappearance of some of them with the development of agriculture and the cultivation of the soil In the interests of human history, as well as of biological science, such diseases should be studied as thoroughly as possible while they are still accessible to investigation The facts placed on record by such investigations may prove to be in their way as important as the opening of an Egyptian tomb —Theobald Smith *Edinburgh M J* **31** 228 (April) 1924

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 7, 1924

## INFESTATION WITH FLAGELLATE PROTOZOA

The pathogenicity of various types of the different classes of protozoa for which the human intestine furnishes a habitat remains under active discussion One reason for the still limited information regarding them from the standpoint of their possible medical bearing lies in the fact that the parasites are seldom discovered except when there is some intestinal ailment, for in normal health the feces are rarely submitted to microscopic examination Another reason is suggested by the comparatively recent trend of interest, particularly in this country, toward the problems of tropical and subtropical diseases, with which the intestinal protozoa are most frequently associated in the minds of medical investigators

A worker[1] in this field has made the assertion that obviously, in view of the large number of infested persons, the intestinal protozoans must often have little or no pathogenic effect There is, nevertheless, much individual difference in susceptibility, and different strains of the same parasite seem to vary in the effects they produce Moreover, it is highly probable, according to Chandler, that a great many slight and perhaps almost unnoticed symptoms, resulting in a certain amount of interference with the digestive tract and in a general lowering of the health, may find their ultimate cause in intestinal parasites, either protozoans or worms or both The health of people living in warm and tropical countries, even aside from the effects of malaria and other warm-climate diseases, is proverbially less perfect than that of people in the usually more sanitary northern countries Hence Chandler believes it is quite probable that intestinal protozoa may play a part in this lowering of the tone of health

Among the protozoa that are actually found at times in the alimentary tract is the species *Trichomonas* This is generally regarded as a harmless parasite, but to some writers there seems to be strong evidence that it often causes diarrhea, sometimes severe and of long duration Epidemics of diarrhea and mild dysenteric symptoms in man apparently caused by *Trichomonas* have been reported from Brazil, Peru, China, Indiana and South Carolina, and it is probable that the parasite is at least mildly pathogenic wherever it occurs, tending to aggravate other intestinal ailments, if not causing them directly As a rule, the intestinal flagellates and other protozoa that inhabit the alimentary tract of man or animals protect themselves against the unfavorable conditions for their existence outside the digestive tube by the formation of resistant cysts In the encysted state they are not so subject to the destructive effects of desiccation or an unfavorable medium, so that they are thereby rendered capable of remaining in this state in a sort of torpid condition for long periods until they gain access to a new host Unencysted, the protozoa might be expected also to succumb to the acid gastric juice of the stomach

According to Hegner[2] of the School of Hygiene and Public Health at Johns Hopkins University, all the well established species of intestinal flagellates that live in man, except *Trichomonas hominis,* are known to form cysts The cysts of this species that have been described by various workers were later found to belong to some other organism The infestation of new hosts with intestinal flagellates is supposed to take place by ingestion of cysts Obviously, this is not true of *Trichomonas hominis,* if no cysts are formed by this species

Hegner argues that, if there are no cysts in the life cycle of *Trichomonas hominis,* and infection takes place by the method of contamination of the food of the host, then it must be the naked flagellate stage that is ingested This species inhabits the region of the intestine in or near the cecum Consequently, it must either be introduced in unsuspected ways, or retain its viability despite passage through unfavorable upper reaches of the gastro-enteric canal Recent studies[3] on the behavior of trichomonads in the rat indicate that actively motile specimens of *Trichomonas muris* may remain actively motile in the stomach of this animal at least an hour after being ingested They appear to have great viability, so that they can pass apparently unharmed from the mouth to the cecum Infection can undoubtedly be set up in this organ In the rat, the infestation of new hosts by ingestion of food and drink containing the flagellate stage is practically proved

Hegner believes that conditions analogous to the foregoing probably exist in the case of *Trichomonas hominis* Hegner and Becker[3] found the flagellate stage of this species more viable than that of certain other human intestinal flagellates Thus, it is probably able to pass unharmed through the stomach and into the intestine,

1 Chandler, A C Animal Parasites and Human Disease, New York, John Wiley & Sons, 1922

2 Hegner R W Infection Experiments with Trichomonas, Am J Hyg 4 143 (March) 1924

3 Hegner, R W, and Becker E R The Diagnosis of Intestinal Flagellates by Culture Methods, J Parasitol 9 15, 1923

where it may initiate an infection Hegner consequently believes that the infestation of man with *Trichomonas hominis* probably also takes place by the ingestion of contaminated food This points the way to proper preventive measures The possible role of intestinal bacteria in the establishment of the flagellate endozoal parasites was indicated recently in these columns [4] An acidophilic flora seems to favor them, in contrast with conditions in which the predominant type of bacteria in the cecum is of the putrefactive variety The bacterial flora can, to a certain extent, be modified by diet Hence there looms up the possibility of dietotherapeutic effects on protozoa already implanted

## THE PURIN BASES OF THE URINE

The story of purin metabolism has lost much of the glamor that attached to it in the days when the physiology of uric acid was endowed with a greater clinical importance than is now accorded it Two decades ago, uric acid was still being held responsible for all sorts of ills The association of this interesting body component and waste product in some way with gout had been clearly demonstrated From this arose the tendency to assume a variety of vague abnormal relations that were most easily disposed of by reference to a "uric acid diathesis" Clinicians were encouraged to indulge in hypotheses and undemonstrated assumptions in which the words "uric acid" were employed The sick were warned to guard against any accumulation of this product, and they were advised how to become rid of that which was already entrenched in the suffering organism

In the meantime, the development of biochemistry brought facts to light that gave impetus to a radical revision of the once accepted statements Writing in THE JOURNAL in 1905 under the caption "Truth and Poetry Concerning Uric Acid," Barker reminded our readers that old theories have had their foundations washed out from under them years or decades before their fallacies have become generally recognized by the profession It is easy, he remarks, to be too severe in criticizing the inertia of medical men in this respect, for the very conservatism that accounts for the facts mentioned has gone far to protect our guild from the too speedy welcoming of immature conceptions, on the one hand, and from the too easy rejection, on the other, of theories which, under assault by partisan or ignorant critics, prove ultimately to be sound It is not an unwillingness to accept new truth nor a desire stubbornly to retain error that is characteristic of our profession, Barker adds On the contrary, it is rather the fear of being duped concerning the new or of being cheated of old and well tried good that animates it and determines its action or inaction

After the significance of uric acid as an end-product of purin metabolism in the body had been established, attention was directed to the other purins that are eliminated in the urine The quantity is not large, and the difficulties of analysis have long encumbered the prospect of securing dependable information about these compounds In 1898, Kruger and Salomon were able to identify at least seven different purin derivatives besides uric acid in human urine Most of them were methyl purins The output of these urinary purins has been estimated at from 15 to 45 mg a day Do they represent intermediate stages in the metabolism of food or tissue purins that have escaped conversion to uric acid or complete destruction? Does any unique significance attach to them in relation to disease, and particularly with respect to a possible interference with normal purin metabolism? If so, it might become diagnostically profitable to pay more attention to the urinary purin bases

Jones [1] has insisted that the presence of the simple purins in human urine admits of a very clear explanation In the organism, he argues, the purin groups of nucleic acid readily undergo deamination with the final formation of the oxypurins, xanthin and hypoxanthin, and this is the case whether the nucleic acid originates from the food, from metabolism of the cell nucleus, or from the bodies of dead leukocytes To the oxypurins thus formed is to be added the hypoxanthin formed in the living muscle By the action of the xanthin-oxidase of the liver, the oxypurins are oxidized to uric acid, but, as the oxidizing ferment is present in only this one organ, an escape of small quantities of the oxypurins is scarcely surprising, and their presence in the urine marks out the path along which uric acid has been formed

Further clarity has been introduced into the subject by investigations of Steudel and Ellinghaus [2] of the physiologic institute at the University of Berlin A careful examination was made of human urine collected during periods of so-called purin-free diet from which nucleoproteins and their derivatives were excluded Under such circumstances, none of the purin bases, such as adenin, guanin, xanthin or hypoxanthin, that are known to exist or form in the body made their appearance in the urine Methyl purins alone were found These, however, could be accounted for entirely by their methylated precursors in the tea, coffee or cocoa ingested There is, accordingly, little reason to assume that the so-called purin bases of the urine are ordinarily other than exogenous in origin They are not primarily derived from the metabolism of tissue components and have little to do with the genesis of uric acid The methyl purins of the urine are referable to the methyl purins of the food, notably beverages

4 Diet and Intestinal Protozoa editorial J A M A 81 1790 (Nov 24) 1923

1 Jones W Nucleic Acids London Longmans Green & Co 1914
2 Steudel H and Ellinghaus J Die Purinbasen im Harn bei purinarmer Kost (Ein Beitrag zur Frage nach der Entstehung und Behandlung der Gicht) Ztschr f physiol Chem 127 291 1923

### THE PATHOGENESIS OF RHEUMATIC FEVER

Rheumatic fever is one of a number of distressing maladies for which a really rational mode of treatment, based on known etiology, is still lacking There is, of course, strong suggestion or perhaps even presumptive evidence that infection affords the correct explanation of the disorders to which the designation "rheumatic" has been applied But today, as a recent writer has expressed the situation, it is surprising that, in spite of the great advance in the knowledge of the causation of most common infectious diseases, we still must recognize our uncertainty of the etiologic agent in rheumatic fever In fact, it has even been alleged that there are two rather important features lacking in the infection picture Although rheumatic fever does at times occur in epidemics, it is seldom transmitted to others, furthermore, one attack does not produce immunity or protect against another To this regrettable uncertainty of causation is added the confusing fact that many diseases at times include joint pains—an outstanding gross clinical feature of rheumatic fever and an incident of many specific bacterial infections—as a part of their symptom complex, in fact, it is recorded that no less than eighty different pathologic conditions have been included under the term rheumatism

Thanks to the persistent studies of a number of investigators, notably in recent times at the Hospital of the Rockefeller Institute for Medical Research, a more exact knowledge of the life history of rheumatic fever is being acquired The histopathology of the most prominent lesions has been carefully worked out They occur in the heart, the subcutaneous tissues, the joints, and also in the nervous structures, if one may include chorea minor in the category of disorders due to a common causative agent, the infective agent or virus of rheumatic fever The most generally recognized specific histologic lesion of this disease is the so-called Aschoff body, a submiliary nodule located in the myocardium usually in close relationship with small blood vessels The long known appearance of rows of small, beadlike excrescences along the free margins of the heart valves is characteristic of fatal cases, although the origin of the primary injury of these structures is still debated Also, changes in the blood vessels are common

Fibroid nodules have been observed in the subcutaneous tissues of rheumatic children Swift[1] has remarked that these nodules attract attention clinically only on account of their mechanical presence They are usually painless because they are not in close apposition to nerves Involving only connective tissue, which has no important function except that of a supporting structure, they are not a local source of danger Their chief significance is that they indicate a similar process going on in such important organs as the heart or the brain Examinations made by Swift of the capsule of the knee or the ankle at the acute stages of rheumatic arthritis have indicated focal lesions of the synovia, focal necrosis of the capsule, thrombosis of the smaller arteries, and endothelial and perivascular reactions comparable with changes found in the heart and in subcutaneous nodules The presence of many small nerves in the joint capsules and surrounding ligaments easily explains the great pain in rheumatic arthritis

The conception that Swift has formulated of the essential pathology of rheumatic fever helps to reconcile the manifold and apparently unrelated manifestations of the disease He pictures disseminated focal submiliary nodules with edema in the contiguous tissues during the acute stages, combined with lesion of the blood vessels The drugs that bring relief affect the exudative processes, the small, disseminated lesions of a focal character are not so readily healed Swift postulates two distinct types of response on the part of the body to the infectious agent of rheumatic fever, viz, proliferative and exudative The perivascular proliferative type of lesion, resembling an infectious granuloma, explains the subacute and chronic character of the clinical symptoms in many patients with this disease Marked exudation of serum into the periarticular tissues, and of serum and cells into the joint cavities, are concomitants of the acute arthritis occurring with high fever and general intoxication, these acute exudations disappear following the administration of certain drugs But, Swift adds, their disappearance does not mean necessarily that all lesions of the proliferative type have resolved In fact, we know that these last mentioned lesions, when present in the subcutaneous tissues, often continue for months, and from analogy we may conclude that they have a similar persistent character in other tissues of the body invaded by the causative agent of rheumatic fever

1 Swift, H F The Pathogenesis of Rheumatic Fever, J Exper Med **39** 497 (April) 1924

## *Current Comment*

### CARDIOVASCULAR REACTIONS TO HEMORRHAGE AND TRANSFUSION

Transfusion of blood has become a procedure of undeniable importance in clinical therapy Indeed, there is a strange contradiction of custom in the current methods of furnishing an abundance of blood to certain persons when they are ill, whereas a century or more ago bloodletting was a favorite device for securing return to health Many features of transfusion have been the subject of detailed investigation, notably the choice of technic and the biologic compatibility of the bloods that are to be mixed in the circulation of the recipient Little attention has been accorded to the immediate effect of the blood loss on the donor, for experience has shown that restitution is speedy, and prolonged discomfort, not to say injury, almost never results Nevertheless, hemorrhage is a phenomenon not without possibilities of physiologic reactions An

insufficient blood volume may lead to inadequate filling of the right heart and a sequence of untoward events It is fortunate, therefore, that accurate data regarding some of the immediate cardiovascular reactions to the withdrawal of blood for transfusion have been secured on man The removal of a pint (500 c c ) of blood—a not uncommon quantity—from an average sized person of 60 kg body weight may be accomplished in a few minutes On the assumption that in man the total blood volume comprises about 8 per cent of the body weight, this amount corresponds to approximately 10 per cent of the total blood volume Observing the diastolic silhouette area of the heart by means of the roentgen ray, Eyster and Middleton [1] of the Department of Clinical Medicine at the University of Wisconsin have noted exceedingly slight reductions at most in the outlines In all cases, area and transverse diameter had returned to within 2 per cent of the normal an hour or less after the hemorrhage There was usually a rather sharp fall in both systolic and diastolic pressures and a decrease in pulse pressure during and immediately after the bleeding, but returning rapidly to the approximate normal In most cases, venous pressure also fell temporarily Pulse rate changes were very inconstant and apparently without significance In the recipient, also, transfusion increments of blood in amounts within 1 per cent of the body weight resulted in only transitory alterations of cardiac size and blood pressures Compensatory mechanisms cause a rapid readjustment to normal circulatory conditions, notwithstanding the altered blood volume It is well to know how speedily effective the restoration to normal ordinarily is

## CHOLAGOGUES

In its strict interpretation, the expression cholagogue refers to an agent that may so stimulate the cells of the liver as to cause an increased secretion of bile Since the early days of clinical observation, the fact that certain drugs when administered to man induce copious bilious stools has been supposed to indicate that the substances concerned possess a cholagogic action Mild mercurous chlorid (calomel), in particular, was assigned to this group, which further included a number of long familiar drugs As early as 1868, a British committee appointed to investigate the subject arrived at the conclusion that mercurous chlorid, mercuric chlorid and taraxacum—all reputed cholagogues—do not increase the flow of bile but probably act on the bile-expelling apparatus Bile itself was early observed to exert a cholagogue action, but no cogent evidence has been brought in more recent years for the existence of other hepatic stimulants in the form of medicinal agents A number have been proposed by various investigators Whipple [2] has recently pointed out that when their experimental data are critically examined, one may find minimal fluctuations caused by a variety of drugs—salicylates, chloral hydrate, soaps, acids, albumoses If cholagogue action is present, it is slight, delayed or transient, and is usually less than can be demonstrated as due to food factors (meat, for example) Such cholagogue reactions, Whipple finds, fade by comparison with the reaction caused promptly by bile salts This reaction is constant and lasting, and of striking volume Recently, Smyth and Whipple [3] have applied the latest experimental procedures to test the status of a number of substances that have at various times been alleged to influence bile flow and the content of dissolved substances in the secretion They have observed only negative results with therapeutic doses, for example, of calomel, sodium salicylate and hydrochloric acid Alcohol likewise had no constant influence on the output Whipple [2] has properly insisted that, when the statement is made that a substance is a cholagogue, it should always be measured by the standard of the only known active cholagogue (bile salt), and, to date, all such substances fail when so tested All dependable evidence warrants the recommendation that clinicians should consider the advisability of abandoning therapeutic efforts to "stimulate" the liver through the use of substances having alleged cholagogic effect, for neither the most widely advertised "little liver pills" nor decidedly bigger ones are destined to bring this about, however much a promotion of biliary flow may be desired in some cases

## THE FATE OF VITAMINS IN THE BODY

The conclusion that vitamins are highly essential to the welfare of the living organism, as so many recent investigations seem to indicate beyond peradventure, is based on the observation of nutritive failure and the appearance of so-called deficiency diseases when some of the food factors referred to are missing from the diet It may almost be regarded as a corollary that, under conditions of a deficit in vitamin-bearing products, the body itself will become impoverished in these physiologically potent factors For several types of vitamins, evidence is now available that this is actually the case It has been found by Steenbock, Sell and Nelson [4] that the liver is an important center of fat-soluble vitamin storage, varying in its content of this substance with the ration fed When the diet of the animal becomes poor in vitamin A, however, the liver becomes correspondingly depleted The depletion of the same organ in vitamin B when the animal is deprived of an adequate supply of this factor has been demonstrated by Osborne and Mendel [5] And now Parsons and Reynolds [6] have shown that, whereas the antiscorbutic factor, vitamin C, is found in relative abundance in the liver of normal guinea-pigs, the organ becomes deprived of it under conditions of feeding that result in scurvy

1 Eyster J A F and Middleton W S Cardio-Vascular Reactions to Hemorrhage and Transfusion in Man Am J Physiol 68 581 (May) 1924

2 Whipple G H The Origin and Significance of the Constituents of the Bile Physiol Rev 2 440 (July) 1922

3 Smyth F S and Whipple G H Bile Salt Metabolism IV Negative Influence of Drugs Atropine Pilocarpin Phlorhizin Quinine etc J Biol Chem 59 655 (April) 1924

4 Steenbock H Sell M T and Nelson E M Fat Soluble Vitamine VI Storage of the Fat Soluble Vitamine J Biol Chem 56 327 (June) 1923

5 Osborne T B and Mendel L B The Effect of Diet on the Content of Vitamine B in the Liver J Biol Chem 58 363 (Dec ) 1923

6 Parsons H T and Reynolds M S The Depletion of Vitamin C in the Liver of the Guinea Pig on a Scorbutic Ration J Biol Chem 59 731 (April) 1924

# Association News

## THE CHICAGO SESSION

### American Medical Golfing Association Dinner Changed to Smoker

To avoid conflict with the dinner to be given in honor of Dr George H Simmons, the local committee in charge of the tournament of the American Medical Golfing Association has decided to substitute for the annual dinner usually held immediately after play a golf smoker downtown, at 11 p m, Monday, June 9 This will afford Fellows who attend the dinner to Dr Simmons opportunity to enjoy both events, and will make it possible for those who miss playing to join in the evening festivities of the golfing Fellows Full details about the smoker will be posted at the first tee and at the Registration Bureau

### Chicago Urological Society Luncheons

The Chicago Urological Society will give luncheons to visiting urologists at the Club Chez Pierre, 247 East Ontario Street Wednesday and Thursday, June 11 and 12, during the recess of the section meetings for luncheon Visiting urologists who will attend these luncheons are requested to send their names to Dr Thomas F Finegan, president of the Chicago Urological Society, 30 North Michigan Avenue, or to Dr Harry Culver, secretary, 7 West Madison Street, Chicago

### Missouri Medical College, Class of '99

The Reunion Dinner of the Class of '99, Missouri Medical College, will be at the Morrison Hotel, Chicago, on the evening of Wednesday, June 11 About twenty-five members of the class have already signified their intention to be present Information may be obtained from Dr Francis Lane, 25 East Washington Street, Chicago, or from Dr Adrien Bleyer, class secretary, University Club Building, St Louis

### The American Association for the Study of Allergy

The American Association for the Study of Allergy will hold its second annual meeting Tuesday, June 10, at 1 p m, at the Drake Hotel Papers are to be read by Ray Shannon, St Paul, Charles Hensel, St Paul, George Jack, Buffalo, I S Kahn, San Antonio, Texas, A H Rowe, Oakland, Calif, George Piness, Los Angeles, W W Duke, Kansas City, Mo, K K Koessler, Chicago, and Harry L Huber, Chicago

### Washington University, Class of '99

There will be a reunion of the Class of '99 of Washington University School of Medicine at the Morrison Hotel, Chicago, Wednesday, June 11 Dinner at 7 p m Alumni should communicate with Dr Adrien Bleyer, St Louis, who has this dinner in charge

### Clinics At Chicago Municipal Sanitarium

The Municipal Tuberculosis Sanitarium will conduct the following clinics at the close of the meeting

Saturday morning, June 14, 10 to 12 Thoracectomy with Collapse of Lung in Pulmonary Tuberculosis and Lung Abscess Dr Wilder and D Winner

Saturday afternoon, June 14, 2 to 4 Artificial Pneumothorax Treatment in Lung Abscess and Pulmonary Hemorrhage Dr Winner and Staff

The sanitarium is open, and Fellows who are interested in tuberculosis will find much that will repay a visit

Lunch will be served at the sanitarium for visiting physicians P S WINNER, Medical Superintendent

### Northwestern University Alumni Dinner

The annual dinner of the Northwestern University Alumni Association will be held at 6 30 p m, Wednesday, June 11, at the La Salle Hotel Tickets may be secured from Dr A A Goldsmith, 29 East Madison Street, Chicago, or during the meeting at the Northwestern Booth, near the Registration Bureau on the Municipal Pier The dinner will be informal and ladies will be welcome Tickets $2 50 per plate

### Program of the Woman's Auxiliary of the American Medical Association

All sessions will be held at the Edgewater Beach Hotel

TUESDAY, JUNE 10, 9 A M

Executive board meeting, board composed of all national officers presidents and representatives of all states

WEDNESDAY, JUNE 11, 7 P M

Subscription dinner ($2 per plate)

Toastmistress, Mrs J Allison Hodges Richmond, Va
Address of Welcome, Mrs Jacques Holinger, Chicago
Response and President's Report, Mrs S C Red Houston, Texas.
Address, "The Doctor s Wife as a Citizen," Dr George E Vincen, President, Rockefeller Foundation, New York

THURSDAY, JUNE 12, 9 A M

General session Reports from all states

The wife of any member of the American Medical Association is entitled to membership in the Woman's Auxiliary, which was organized in St Louis, May 26, 1922 The first annual meeting of the organization was held in San Francisco, July 28, 1923, under the presidency of Mrs Samuel C Red, Houston, Texas

Visiting ladies are invited to attend the subscription dinner

### Meeting of Medical Missionaries

There will be a meeting of medical missionaries and physicians, dentists and nurses interested in medical work in foreign missionary fields in the auditorium at the East end of the Municipal Pier at 2 p m, Tuesday, June 10

### Harvard Medical School, Class of '11

A reunion of the Class of '11, Harvard Medical School, will be held at the Edgewater Beach Hotel, Chicago, Thursday evening, June 12 Dinner will be served at 7 o'clock, so that all present may attend the President's reception at the Drake Hotel later in the evening Dr Franklin B McCarty, 30 North Michigan Avenue, Chicago, is in charge of the arrangements

### Phi Rho Sigma Fraternity Luncheon

The Phi Rho Sigma Fraternity will have its luncheon at the Lake Shore Drive Hotel, 181 Lake Shore Drive, Chicago, at the noon hour, Wednesday, June 11 Dr Russell D Herrold, 7 West Madison Street, Chicago, is in charge of arrangements for the luncheon

### Phi Beta Pi Fraternity

The Chicago Alumni Association of Phi Beta Pi will have a reunion luncheon at the Surf Hotel, 501 Surf Street, Chicago, at 12 30, Wednesday, June 11 Tickets will be $2 per plate and can be secured at the Municipal Pier, or from Dr B B Beeson, 7 West Madison Street, Dr M L Black, 30 North Michigan Avenue, or Dr E J Danek, 30 North Michigan Avenue

### Chicago Orthopedic Surgeons' Club—Spalding School for Crippled Children

The Chicago Orthopedic Surgeons' Club invites physicians attending the annual session to visit Chicago's day school for crippled children, the Jesse Spalding School, 1623 West Park Avenue, between the hours of 9 a m and 2 p m Guests can be accommodated at luncheon if an hour's notice is given

### Medical Veterans of the World War

The Medical Veterans of the World War will meet in the auditorium of the Municipal Pier at 4 p m, Tuesday, June 10 After the presidential address of Col C J Vaux, the meeting will be addressed by Surg Gen M W Ireland, U S Army, and Surg Gen E R Stitt, U S Navy Reports of officers will be heard, and new officers will be elected Col Arthur T McCormack, Louisville, is secretary of the Medical Veterans

### Bi Lambda Kappa Fraternity

The Bi Lambda Kappa Fraternity invites all Jewish physicians to attend a dinner at the Morrison Hotel, Wednesday evening, June 11, at 8 o'clock Reservations may be made at a booth in the hotel, or by calling Midway 8619 after 6 p m.

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS EDUCATION, PUBLIC HEALTH ETC.)

## ALABAMA

**Personal**—Dr Archibald B Elkin, director of the Good Samaritan Clinic, Atlanta, Ga, who was the guest of the Calhoun Medical Society at Anniston, Ala, May 20, gave an address on 'Diseases of the Ductless Glands" and conducted a clinic at St Michael's Hospital

**Birmingham's Tuberculosis Sanatorium**—Contracts have been awarded for the construction of the tuberculosis sanatorium in Birmingham for which that city and Jefferson County recently subscribed $200,000 The site is a tract of 83 acres on the Montgomery Highway, already bought and paid for The city and the Board of Revenue have each pledged $20,000 a year for maintenance of the sanatorium Work will start at once and the building will be ready for occupancy according to the contract in 240 working days

## ARKANSAS

**State Medical Meeting**—At the annual convention of the Arkansas Medical Association, Fayetteville, May 20-22, the following officers were elected for 1924-1925 president, Dr Herbert Moulton, Fort Smith, vice presidents, Drs Harvey D Wood, Fayetteville, Simeon J Hesterly, Prescott, and Lorenzo T Evans, Batesville, secretary, William R Bathhurst, Little Rock (reelected), and treasurer, Robert L Saxon Little Rock The next meeting will be held in Little Rock in 1925 Dr William Allen Pusey, President-Elect of the American Medical Association, gave an address

## COLORADO

**Foundation for Research in Tuberculosis**—The research work carried on for eighteen years at Colorado Springs by Dr Gerald B Webb and his associates has led philanthropic citizens of that city to undertake the development of "The Colorado Foundation for Research in Tuberculosis" for which articles of incorporation were recently filed in Denver The foundation will not be for profit, but to conduct, assist and encourage research Fifteen local and national philanthropists have been named the trustees According to *Colorado Medicine* (June, 1924) the advisory council consists of Dr Lawrason Brown, Saranac Lake, N Y, Col George E Bushnell, U S Army, retired, Dr Livingston Farrand, Cornell University, Ithaca, N Y, Dr Allen K Krause, Johns Hopkins University Medical Department, Baltimore, Dr James A Miller, New York, Dr Henry Sewall, Denver, Dr Theobald Smith, Princeton, N J Dr Victor C Vaughan, Washington, D C Dr Alexius M Forster and Dr Gerald B Webb, Colorado Springs, Colo The medical directors will be Drs James J Waring and William W Williams, Denver, Drs Frank L Dennis Philip A Loomis and Gerald B Webb, Colorado Springs Colorado College has offered temporary laboratory facilities for the foundation and a large part of the endowment has already been subscribed

## CONNECTICUT

**Personal**—Dr G H Smith, professor of bacteriology at Yale University School of Medicine New Haven addressed the Central New York Branch of the Society of American Bacteriologists at Geneva, N Y, May 19, on "The History of the Bacteriophage and Its Uses Clinically '——Dr Arthur R Couch has been appointed to the Hartford board of health to succeed Dr John C Rowley

## FLORIDA

**State Medical Meeting**—At the annual meeting of the Florida Medical Association, May 13-14 at Orlando the following officers were elected for the ensuing year president, Dr John C Vinson, Tampa vice presidents, Drs John S McEwan, Orlando Louis S Oppenheimer Tampa and Lawrence C Ingram Orlando and secretary, Graham E Henson, Jacksonville (reelected) The next meeting will be held in St Petersburg in 1925

**Society News**—The Randolph County Medical Society held a public meeting May 1 1924, to discuss the subject of malaria Dr S T Darling of the Rockefeller Foundation and Dr M A Fort, state director of malaria control, were among the speakers——The Fulton County Medical Society is publishing health articles once a week in the local newspapers The first of the series was "Treatment and Control of Diabetes", the second, "How Apparently Healthy People Spread Disease"

## GEORGIA

**Personal**—Dr Eugene E Murphey, Augusta, has been reelected president of the board of health for his fifth term ——Dr John G Earnest, Atlanta, recently celebrated his eighty-second birthday Dr Earnest has practiced in Atlanta for more than sixty years

## ILLINOIS

**Hospital News**—Ground has been broken in La Grange for the erection of the new $400 000 hospital building that will replace the La Grange Sanatorium recently destroyed by fire (THE JOURNAL, May 17, p 1616) The first wing, completed, will accommodate 150 patients

**Personal**—Dr Walter G Bain, Springfield, was elected president of the Illinois State Academy of Science, at the annual meeting held, May 2, at Elgin——Dr Olive F H Kocher, Elgin, has been elected president of the Elgin Physicians' Club, to succeed Dr Sally Y Howell

### Chicago

**Society News**—At a meeting of the Chicago Urological Society, May 22, the following officers were elected president, Dr Thomas F Finegan, vice president, Dr Vincent J O'Conor, and secretary-treasurer, Dr Harry Culver

**Judge Decides Medical Practice Act is Constitutional**—Judge Kavanagh of the criminal court of Cook County declared in a decision rendered in the case of Margaret Kabana, a chiropractor charged with practicing medicine without a license, May 26, that the Illinois Medical Practice Act of 1923 is constitutional The defense, represented by Clarence Darrow and others, argued that the act was unconstitutional In this, the first decision on the constitutionality of this statute, Judge Kavanagh said among other things "I have studied the decisions of the Illinois Supreme Court and the Medical Practice Act of 1923 carefully, and clearly understand the points that have been made against this legislation, but I think the act is not open to the objections made I have no doubt about the constitutionality of this act It seems to me to be clearly constitutional I also regard it as wise legislation Without such legislation, persons without any qualifications whatever would freely engage in the practice of healing diseases and the public would undoubtedly be harmed"

## INDIANA

**Hospital News**—Excavation has started on the $300,000 Lake County Tuberculosis Sanatorium at Crown Point—— A new addition will be erected at St Anthony's Hospital Michigan City, at a cost of $150,000——Dr Simon P Scherer, owner of the Highland Mineral Springs Sanatorium, Martinsville, will erect a $60,000 addition to the institution

**Society News**—At a recent meeting of the Northeastern Indiana Academy of Medicine at Kendallville recently, Dr Oliver S Ormsby, professor of skin diseases at Rush Medical College, Chicago, gave an illustrated lecture on "Diagnosis and Treatment of Parasitic Diseases of the Skin"——The Huntington, Blackford, Wells and Grant County Medical societies held a meeting at Warren, May 6, at which Dr Charles D Humes of Indianapolis presented a paper on "Neuro-Psychiatric Problems of Medicine and Surgery,' and Dr James H Stygall Indianapolis, on "Legislative and Educational Propaganda"

## IOWA

**Personal**—Dr Julius Grinker associate professor of nervous and mental diseases, Northwestern University Medical School, Chicago, addressed the Johnson County Medical Society at Iowa City, May 14, on Idiopathic Epilepsy

## KENTUCKY

**Hospital News**—A new $125,000 city hospital will be erected at Bowling Green it is announced——An addition will be erected at the Owensboro City Hospital Owensboro, in the near future Bids are being taken——The cornerstone of the new nurses home for the Speers Memorial Hospital, Dayton, was laid recently

## MARYLAND

**Conference of State Health Officials**—The annual conference of the state health officers will be held, June 6, at Osler Hall, Medical and Chirurgical Faculty Building, Baltimore The conference will bring together all health officers in the state and others interested in health problems The morning session will be devoted to addresses on public health, George E Vincent, president of the Rockefeller Foundation, will be the principal speaker There will be talks on "Cost and Results of Medical Inspection of School Children," by Dr E A Jones, deputy state health officer, "Methods of Financing County Health Officers," W N Kirkman, state purchasing agent, "Tuberculosis Clinics," Dr John M Nicklas, clinical aid in the bureau of communicable diseases, "Sanatorium Treatment for Tuberculous Patients," Dr Martin F Sloan, president of the state tuberculosis association, Dr William Seigal, superintendent of the Maryland Tuberculosis Sanatorium, Henrytown, and Dr William A Bridges, superintendent of Eudowood Hospital At the afternoon session Dr J H Schrader, director of the bureau of chemistry and foods at the city health department, will speak on the milk question, followed by a round table discussion of methods for the prevention and control of communicable diseases Among questions to be discussed will be "Should Pneumonia Be Isolated?" and "The Etiology and Methods of Prevention in Scarlet Fever"

## MASSACHUSETTS

**Personal**—Dr George S Derby, assistant professor of ophthalmology, Medical School of Harvard University, has been appointed Williams professor of ophthalmology to succeed Dr Alexander Quackenboss, who retired —— Dr David Cheever is retiring from the Department of Anatomy of Harvard Medical School in order to devote more time to surgical work His successor will be Dr Robert M Green

## MICHIGAN

**Smallpox in Detroit**—During the week ending May 17, there were 118 cases of smallpox with fifteen deaths reported in Detroit, according to an announcement of the Detroit department of health There have been, since the beginning of the year, in that city 1,155 cases of smallpox, and in the same period fifty-five deaths from that disease A later report from Detroit adds that for the week ending May 24 there were 113 cases of smallpox in that city reported with fifteen deaths, and that 28,000 persons were vaccinated during the week Certain sections of the city were circularized by the Boy Scouts who distributed 22,000 handbills The public press and the clergy are cooperating to spread information concerning vaccination All hospitals now require the vaccination of patients and personnel, and manufacturing industries have called on the city health department for assistance in vaccinating employees

## MINNESOTA

**Reciprocity with Montana**—The State Board of Medical Examiners announces that reciprocity has been established with the state of Montana on the basis of licenses granted by an examination only

## MISSISSIPPI

**State Medical Meeting**—At a meeting of the Mississippi State Medical Association, May 13-15, at Jackson, the following officers were elected for the ensuing year president, Dr Hugh H Haralson, Forest, vice presidents, Drs William J Anderson, Meridian, Charles A McWilliams, Gulfport, and Daniel C Montgomery, Greenville, secretary, Dr Thomas M Dye, Clarksdale, and treasurer, Dr James M Buchanan, Meridian The next meeting will be held in Biloxi in 1925

## MISSOURI

**Personal**—Dr Frank C Neff, Kansas City, has been appointed professor of pediatrics at the University of Kansas School of Medicine and pediatrician-in-chief to the Bell Memorial Hospital, Rosedale, Kan

## MONTANA

**Sterilization Inquiry**—The state board of eugenics, comprising Drs Charles R Monahan, William F Cogswell and Caroline McGill, held a special meeting at Warm Springs, recently, to inquire into operations which, it is reported, had been conducted at the State Insane Asylum for the purpose of sterilization It was said that twenty-one such operations had been done, some of which were performed without the consent of the board of eugenics as provided by the law

## NEBRASKA

**Nebraska Association of Medical Women**—At a meeting of this association, May 13, at Omaha, Dr Inez C Philbrick, Lincoln, was elected president to succeed Dr Emelia E Brandt, Omaha Dr Martha MacVean, Nebraska City, was elected vice president, and Dr Margaret E Hammond, Lincoln, secretary-treasurer

**State Medical Meeting**—At the meeting of the Nebraska State Medical Association, May 13-15, at Omaha, the following officers were elected for the ensuing year president, Dr Palmer Findley, Omaha, vice presidents, Drs Frank S Owen, Omaha, and Roy D Bryson, Callaway, secretary-treasurer, Dr Roy B Adams, Lincoln, and editor, Dr Francis A Long, Madison, reelected

## NEW JERSEY

**Chiropractors Arrested**—According to a report from the state board of medical examiners, Meade H Whiteside was found guilty, May 22, of practicing medicine without a license and was fined $500, which he refused to pay He was then sentenced to thirty days in jail ——Lynn Frye of Mount Holly, who was also found guilty on a second charge of practicing medicine without a license, was fined $500 He also refused to pay and was sentenced to thirty days in jail ——Louis Nalitt of Bayonne, who was arrested, May 27, for practicing medicine without a license, pleaded guilty and was fined $200 for the first offense

## NEW MEXICO

**New Mexico Medical Society**—At the annual meeting of this society at Santa Fe, May 27-29, the following officers were elected for the ensuing year president, Dr J W Stoter, Gallup, president-elect, Dr D B Williams, Santa Fe, vice presidents, Drs C F Beeson, Roswell, E M Fiske, Santa Fe, and C B Elliott, Raton, and secretary-treasurer, Dr Charles M Yater, Roswell The next meeting will be held in Clovis, in 1925

**Conference on Medical Problems of Indians**—Representatives of the Department of the Interior, physicians of McKinley County and all physicians in the employ of the Indian Service on the local Indian reservation met at Gallup, April 21, to confer on health problems which concern the Indian Dr Hubert Work, Secretary of the Interior, Commissioner Burke, Bureau of Indian Affairs, Dr John McMullen, trachoma specialist, U S Public Health Service, Dr Robert E. Lee, Newberne, chief medical supervisor of the Indians, Herbert G Hagerman, commissioner of the Navajo Indians, Dr Rudolph D Moffet, New York City, head of Presbyterian mission work, Dr George S Lukett, state director of public health, Dr James W Bazell, Navajo County health officer, and others from distant places were present The morning session of the conference was given over to a discussion of trachoma, and the afternoon session to tuberculosis It was shown that there are about 35,000 Indians on the Navajo reservation, and that only nine physicians were on duty with them It was mentioned that the Indians are scattered over a wide territory, and that it is difficult to keep the allowed quota of physicians among them, owing to the isolation and the inadequate salaries which physicians receive for this service The fact was brought out that physicians on the reservation are under the supervision of school superintendents, who are only indirectly interested in medical problems Dr Work agreed to organize the medical service with a physician in Washington at its head, but he considered it impossible to accomplish all that had been suggested at this conference owing to a lack of funds He called attention to the fact that this is not entirely a government problem, and that local and state health officers should become actively engaged in a campaign against trachoma and tuberculosis, particularly in preventing their spread among the white population

## NEW YORK

**Personal**—Dr Victor C Jacobson, professor of pathology, Albany Medical College, has been awarded a grant of $2,0 by the Committee on Scientific Research of the American Medical Association for the experimental study of endometrial implantation and its relation to epithelial tumors of the ovary ——Dr Irving Van Woert, Delmar, and Dr Robert

Knight, Seneca Falls, have been appointed epidemiologists in the state department of health Both appointees are graduates of courses in public health

### New York City

**Academy of Medicine Site Sold**—The contract for the sale of the site at Park Avenue and Sixtieth Street, originally selected for the new home of the New York Academy of Medicine, has finally been signed The academy obtained one million dollars for the property

**Site for Chlorin Gas Clinic Changed**—The clinic for the study and treatment of certain respiratory diseases with chlorin gas, which the health department is conducting, has been opened at the public health station at 345 East One Hundred and Sixteenth Street, instead of at the Willard Parker Hospital, as was first announced

**Income of Opera House for Hospital**—The Consistory of Scottish Rite Thirty-Second Degree Masons of New York City has voted to use the income from the Manhattan Opera House, which is owned by the consistory, to establish and maintain a hospital for the treatment of chronic diseases The hospital will have a laboratory bureau for general research work Authority has been given to the trustees to purchase a building or land

**East Side Health Survey**—The Association for Improving the Condition of the Poor has conducted a health survey in the Mulberry district at Broadway and the Bowery for the last six years A report was made public, April 5 Pneumonia was by far the leading cause of death in the district The average death rate from pneumonia during the six years was 4 38 per thousand, against 1 78 for New York City as a whole It also reported that 44 8 per cent of the deaths of children of preschool age were caused by pneumonia

**Quack Arrested**—"Dr" Orin W Joslin and his assistant Miss Claire A Johnson were held in bail by Magistrate Brough, May 20, on a charge of practicing medicine without a license Joslin, it is reported, occupied a luxurious suite of offices of eleven rooms at 363 Riverside Drive where he treated all manner of ailments by means of "radio waves," and mulcted hundreds of credulous patients Joslin's radio device was tested by experts, the assistant district attorney said, and found such an imperfect machine that it would not detect a clap of thunder nearby

**Cancer Institutes Opened**—The Manhattan Cancer Clinic, established by the department of public welfare at 124 East Fifty-Ninth Street, Manhattan, is expanding its work It is now prepared to care for twenty-four patients for a period of ten days Patients who require more than ten days' treatment will be sent to the Cancer Hospital on Welfare Island, where seventy patients are being cared for Deep roentgen-ray machines which make it possible to treat two patients at the same time have been installed A large number of beds are available in the Metropolitan and City hospitals on Welfare Island for cancer patients and the treatment is free Commissioner of Public Welfare Bird S Coler has opened a second cancer institute at the old Cumberland Hospital in Brooklyn, where shortly there will be a bed capacity of 200 More than $200 000 is being spent to improve this institution Dr Charles H Mayo gave an address at the formal opening of both of these institutes

### NORTH CAROLINA

**Personal**—Dr Morrill L Ilsley, formerly director of the western division of the state board of health, has been appointed professor of hygiene and preventive medicine at Colgate University, Hamilton, N Y——Dr John C Twitty, Rutherfordton, was elected full time health officer of Rutherford County

**Hospital News**—Leaksville Hospital, being erected by Dr Carl V Tyner at a cost of $50,000, is nearing completion It will accommodate thirty patients——The new Baptist hospital, located on the site of the old Tranquil Park Sanatorium Charlotte will be opened, about June 1, it is announced An addition is also being erected to the old hospital building which will give the hospital a capacity of 106 beds——An addition to the Lawrence Hospital, Winston-Salem, was opened about May 15

### OHIO

**Smallpox**—It is reported there are more than 100 cases of smallpox at Upper Sandusky, and that an outbreak has occurred in a construction camp at Kenton Dr Gainor Jennings of the state health department, Columbus while investigating the latter outbreak, stated that there have been many mild outbreaks in the state and that in several cases death has resulted Smallpox has recently been reported at Minster and at Dundridge

**Personal**—Lieut-Col Courtney P Grover has resigned as chief surgeon of the National Military Home, Dayton Colonel Grover is now under treatment at the Marion National Sanatorium, National Military Home, Ind He was recently missing several days, and was found in a hotel in Cincinnati——Dr Shiro Tashiro, an associate professor of biochemistry in the University of Cincinnati College of Medicine, will leave soon for Japan to receive the Gakushiin prize from the Imperial Academy of Arts and Sciences The bestowal of this prize in Japan is considered a national event——Dr William H Fisher, Toledo, won the annual 1924 championship of the Ohio Medical Golfing Association, whose tournament precedes the annual convention of the State Medical Association Dr Fisher turned in a gross total of 169 for thirty-six holes——Dr John M Withrow, Cincinnati, for twenty years a member of the board of education and for the last twelve years its president, has resigned to devote himself to professional duties——Dr Charles B Rogers, for thirteen years resident medical director of the Cincinnati Sanatorium, has resigned to resume charge of Orchard Springs Sanatorium, Dayton, succeeding Dr Frank R Lord resigned——Dr George J Hance has been appointed coroner of Miami County——Dr Anthony M Martin, Tiffin, recently celebrated his ninety-third birthday He was in practice for sixty-two years

### OREGON

**License Revoked**—The Oregon State Board of Medical Examiners has announced that the license of Dr Dan E Standard, who has been practicing at Warrenton, has been revoked

**Portland Wants Milk Pasteurized**—The last two epidemics in Portland having been traced to unpasteurized milk the Oregon Public Health League has started a campaign for the general pasteurization of milk in that city A resolution was recently presented to the City and County Medical Society, which in part was as follows "Resolved, that the chairman of the Oregon Public Health League, the president of the Oregon State Medical Society, the president of the Portland City and County Medical Society and the dean of the University of Oregon Medical School be requested to appoint a committee of three to meet with the state board of health, jointly with the city board of health and the state dairy and food commissioner, that a general investigation and discussion may take place and scientific knowledge be given the public by the medical profession of this state"

### PENNSYLVANIA

**Plans for Camp Happy**—The Philadelphia Health Council and Tuberculosis Committee and the City Department of Welfare will reopen Camp Happy, June 24 Capt B S Walton will be in charge The camp will be enlarged to take care of 1,000 children this summer, each to have the benefit of at least two weeks of outdoor life at Torresdale

**Children's Welfare Program**—Dr Ellen C Potter, state welfare secretary, in speaking to one hundred representatives of hospitals, welfare organizations and private societies interested in the care of crippled children, in conference in Harrisburg, May 21, stated that an appropriation of $1,000,000 in the next two years will be required to enable the state to look after the welfare of crippled children An appropriation of $112,000 would be required to establish a corps of field orthopedic nurses, provide beds in general hospitals for crippled children and open clinics for them The department of public instruction would need $500,000 to provide special education for handicapped children

### Philadelphia

**Honor to Dr George E de Schweinitz**—On May 12 Dr George E de Schweinitz addressed the Societe Française d Ophtalmologie in the amphitheater of the University of Paris Medical Department At the conclusion of his address he was presented with a large bronze plaquette After the address, a dinner was tendered to him, and on the following day he was unanimously elected an honorary member of the society On May 18 he addressed the Societe d Ophtalmologie Belgique and was unanimously elected a member of that organization

**Six Quacks Arrested**—Warrants were issued, May 26 for the arrest of six quacks on evidence furnished by the chief of the district attorney's detective force In the party lodged

in cells at the city hall was Joseph Letchkosski, alias Dr Lentz, Salvi Goldenburg, and Gabriel Beauvides Mendina Letchkosski said he graduated from a medical college in Russia but had lost his diploma Goldenburg said he came from Austria less than three months ago, and that most of the patients were of the mail-order type However, he sold Detective Friedman medicine for an imaginary gallstone attack and charged him $24 Detective Shocker visited a woman quack, asking for treatment for rheumatism and was given a prescription directing him to steal a white potato and wear it on the site of the pain He was also directed to rise at 2 o'clock every morning and take a teaspoonful of "salts" The woman demanded $1 for this advice The drive against quacks which has been started in this city by the district attorney is receiving the cooperation of the Philadelphia County Medical Society, the State Bureau of Medical Licensure, and the Homeopathic County Medical Society

**Personal**—Dr Chevalier Q Jackson has resigned his chair as professor of laryngology at the Jefferson Medical College of Philadelphia to accept the newly created chair of bronchoscopy and esophagoscopy in the same institution, according to the announcement made by the dean, Dr Ross V Patterson, May 19 Dr Jackson graduated from Jefferson in 1886, and since 1917 has occupied the chair of laryngology in that college Prior to 1917 he held a similar chair in the University of Pittsburgh School of Medicine——Dr Fielding Otis Lewis, who will succeed Dr Jackson in the chair of laryngology at Jefferson, has been associate professor of laryngology at Jefferson——Dr William H Long has been appointed medical director of the Misericordia Hospital to fill the vacancy caused by the recent death of Dr Ernest Laplace——Dr Basil R Beltran has been appointed one of the chief surgeons of the Misericordia Hospital Dr Beltran is on the surgical staff of St Mary's Hospital and of Philadelphia General Hospital, and was recently made an assistant professor in the Graduate School of Medicine of the University of Pennsylvania——Dr Thomas B Holloway has been elected professor of ophthalmology at the University of Pennsylvania School of Medicine, Philadelphia, to succeed Dr George E de Schweinitz——Dr George M Dorrance, Jr, has resigned his chair as professor of plastic surgery in the Woman's Medical College on account of private practice and his work at the University of Pennsylvania, his staff, including Dr J William Bransfield, clinical professor, Dr Eugene C Murphy and Dr H A McKnight, assistant professors, automatically resign, also Dr John Stewart Rodman has been appointed by the board of corporators of the Woman's Medical College to succeed Dr Dorrance Dr Rodman for several years has been secretary of the National Board of Medical Examiners in this city

## SOUTH DAKOTA

**South Dakota State Medical Association**—At the forty-third annual meeting of the association in Mitchell, May 20-21, the following officers were elected for the ensuing year president, Dr Robert L Murdy, Aberdeen, to succeed Dr Francis E Clough of Lead, vice presidents, Drs William R Ball, Mitchell, Theodore F Riggs, Pierre, and Silas M Hohf, Yankton, and secretary, Dr Robert D Alway, Aberdeen (reelected) The next meeting will be held in Sioux Falls in 1925 The association adopted a resolution to memorialize congress to enact a law which would require all firms to label lye manufactured for household purposes

## TENNESSEE

**Personal.**—Drs Harrison H Shoulders and Samuel P Bailey, both of Nashville, were elected president and secretary, respectively, of the Middle Tennessee Medical Association, May 9, at the annual meeting——Dr Fred C Watson, Memphis, has accepted a position with Cuyarnel Fruit Company, Puerto Cortez, Honduras——Dr Joseph B Hibbitts, Jr, Nashville, recently completed a three weeks' course for flight surgeons at the aviation school, Long Island, New York——Dr Herbert Acuff, Knoxville, was reelected president of the Tennessee Anti-Tuberculosis Association at the annual meeting in Columbia Drs Ira O Park, Union City, John S Freeman, Springfield, Joseph L Edwards, Brownsville, and James J Durrett, Memphis, were elected directors

## TEXAS

**Personal**—Dr Arthur C Scott, Temple, has resigned as a member of the state board of health——Dr Richard McCormick, Waco, has been appointed full-time health officer of McLennan County

**Hospital News**—A two-story brick hospital will be erected at McAllen at a cost of approximately $25,000——The Dallas Baby Camp and Hospital will be erected in Dallas at a cost of $50,000, it is reported

**Chiropractor Fined and Jailed**—J E Guyton of Alpine, who was tried, May 19, before County Judge Burke, was found guilty of practicing medicine without a license He was sentenced to pay a fine of $50 and to one hour in jail

## WEST VIRGINIA

**State Medical Meeting**—At the fifty-seventh annual meeting of the West Virginia State Medical Association, held in May, at Wheeling, the following officers were elected for the ensuing year president, Dr George D Jeffers, Parkersburg, vice presidents, Drs William T Morris, Wheeling, Charles B Wylie, Morgantown, Delivan A MacGregor, Wheeling, treasurer, Dr Hugh G Nicholson, Charleston, and secretary, Dr Delivan A MacGregor, Wheeling The next meeting will be held in Bluefield in 1925

## WISCONSIN

**Judge Rules Chiropractors May Not Use "M D"**—Judge Page recently ruled in a Milwaukee district court that chiropractors cannot use the title doctor even though conferred on them by an "accredited school," and he fined Ferdinand Wisher $100 for using the title It is said that Wisher will appeal to the supreme court

**Personal**—Dr William S Middleton, Madison, has been appointed a member of the state soldiers' rehabilitation board by the governor The other members of the board are Drs Cornelius A Harper, state health officer, and William F Lorenz, director of the State Psychiatric Institute——Dr Lawrence G Sykes, Milwaukee, has moved to Hartford, Conn, to become medical director of the Connecticut General Life Insurance Company——Dr August Sauthoff, Madison, has been appointed clinical director of the Wisconsin State Hospital for the Insane at Mendota——L J Woodworth, city sanitary inspector of Janesville, has been appointed assistant city health officer——Dr Roy A Barlow, formerly of the Mayo Clinic, has joined the staff of the Jackson Clinic, Madison——Dr Samuel D Greenwood, Neenah, has been elected chief of the staff of the Theda Clark Memorial Hospital——Dr John F Brown, Waupun, has been elected president of the Rotary Club of that city——Dr Joseph J Bellin, Green Bay, has been elected president of the Deaconess Hospital board of that city

## CANADA

**Vital Statistics**—The net increase of people born in Canada during the ten years 1911-1921 has recently been announced as being 1,213,065 people, or 21 59 per cent of the total population, in the previous ten years the increase was 947,867 people, or 20 29 per cent of the total population

**Society News**—The American Therapeutic Society will hold its twenty-fifth annual meeting in Toronto, June 6 7, under the presidency of Dr George H Evans, San Francisco Dr Robert Dawson Rudolf of Toronto will deliver the address of welcome and Prof John J R MacLeod will speak on "The Physiology of Insulin"

## HAWAII

**Medical Society Election**—At the annual meeting of the Medical Society of Hawaii, April 26-28, Honolulu, the following were elected officers for the current year president, Dr Charles R McLean, vice president, Dr Gideon M Van Poole, recording secretary, Dr Wah K Chang, treasurer, Dr Guy C Milnor Dr Forrest J Pinkerton was elected corresponding secretary which position has been made somewhat permanent, and all correspondence to the society should be directed to this office at 46 Alexander Young Building, Honolulu

## GENERAL

**More Funds for Greece**—Another $100,000 to aid destitute refugees in Greece has been placed in the hands of the American committee in Athens The American Red Cross has expended, since the Asia Minor exodus, a total of $2,705,696 for Greek relief

**Conference on Health Education**—At the invitation of the Massachusetts Institute of Technology, a working conference in health education will be held in Cambridge, Mass, June 23-28 The conference which was called by the Health Education Division of the American Child Health Association will be limited to 100

**American Gynecological Society**—At the annual meeting of this society, May 15, at Hot Springs, Va., the following officers were elected for the ensuing year: president, Dr. Howard C. Taylor, New York; vice presidents, Drs. Franklin S. Newell, Boston, and Frederick J. Taussig, St. Louis; secretary, Dr. Arthur H. Curtis, Chicago, and treasurer, Dr. Charles C. Norris, Philadelphia.

**Directory of County Health Officers**—The name, address, county and official title of all of the whole time county health officers in this country were published in the United States Public Health Reports, May 16, 1924. A similar directory for city health officers will be published later. All the health officers listed are doctors of medicine except one, who is a doctor of philosophy.

**National Board Diplomates Meet in Chicago**—Arrangements have been completed for a luncheon meeting in Chicago, June 12, of all the diplomates of the National Board of Medical Examiners who may attend the annual session of the American Medical Association. The board has arranged for a booth in the scientific exhibit at the Municipal Pier to serve as headquarters for visiting diplomates and as a center of information for members and friends of the board.

**Association for the Study of Internal Secretions**—The eighth annual scientific session of this association will be held at the Drake Hotel, Chicago, June 9. The speakers will be Lester R. Dragstedt, Chicago; Walter M. Boothby, Rochester, Minn.; Rollin T. Woodyatt, Chicago; Russel M. Wilder, Rochester, Minn.; John R. Murlin, Ph.D., Rochester, N. Y.; Karl Petren, Lund, Sweden; C. H. Best, Toronto, Canada; Herbert M. Evans, Berkeley, Calif.; Edgar Allen, Columbia, Mo.; Edward A. Doisy, St. Louis, and S. Shapiro, New York City.

**Field Representative for Cancer Society**—Dr. William F. Wild has been appointed field representative of the American Society for the Control of Cancer, having left the position of executive secretary of the Minnesota Public Health Association to accept that position. Dr. Wild, who is a graduate of Tulane University of Louisiana School of Medicine, New Orleans, and of the Harvard-Massachusetts Institute of Technology School for Health Officers, was formerly connected with the U. S. Public Health Service and was successively director of laboratories, epidemiologist, and state health officer of Nebraska.

**Narcotic Imports Decrease**—According to a report of the head of the narcotic division of the Prohibition Unit, Washington, D. C., the sale and use of habit-forming drugs in the United States is on the decrease. Importation of opium, the report states, has decreased from 471,000 pounds annually for the ten year period prior to the effective date of the Harrison Narcotic law in 1915 to slightly less than 136,000 pounds in 1922. For the six months ending Dec. 31, 1923, the importation of opium particularly showed a decrease while the sales of the various alkaloid derivatives of opium fell off 50 per cent. over the previous six months.

**American Journal of Pathology**—The general education board of the Rockefeller Foundation has appropriated the sum of $7,500 a year for five years to the American Association of Pathologists and Bacteriologists to support the *American Journal of Pathology*. The *American Journal of Medical Research*, now the official organ of this association, will change its name January, 1925, to the *American Journal of Pathology*, which will then be the official organ of the association. Dr. Frank B. Mallory, the present editor, will continue the editorship of the journal under its new name.

**Foreign Visitors**—Prof. John Sendziak, Warsaw, Poland, was the guest of the section of otology at the New York Academy of Medicine, May 23, when he spoke on 'Problems in Otology and What Poland Is Doing Toward Their Solution."——Dr. Nils H. Heitman, chief tuberculosis officer of the Norwegian government, and Dr. Germund Wirgin, Sweden, are traveling in the United States as guests of the Rockefeller Foundation to study public health work in large cities.——Dr. J. Basil Hume, exchange professor of surgery from England at the University of Michigan Medical School, Ann Arbor, Mich., gave an address before the members of the staff of the Foote Memorial Hospital at Jackson, May 13.

**Reduction of Income Tax**—Taxpayers who elected to pay their income taxes during the current year in four instalments and who paid on or before March 15 one fourth of the year's tax due under the old law must pay the second instalment on or before June 15. Under the revenue act just passed the June instalment is equal to one half of the amount paid in March. Instalments payable in September and December each equals three fourths of the March payment. Instalments due in September and December may, however, be paid immediately if the taxpayer so desires. Those taxpayers who paid on or before March 15 the full amount shown by their returns to be due under the old law will receive from the Treasury Department a refund of 25 per cent. Taxpayers who then paid 75 per cent. of the amount shown to be due for the year have no further payments to make.

**British Association for the Advancement of Science**—At the ninety-second annual session of the British Association for the Advancement of Science which will be held in Toronto, Canada, August 6-13 (THE JOURNAL, May 17, 1924), Major Gen. Sir David Bruce will assume the presidency of the association in succession to Sir Ernest Rutherford and will deliver the presidential address on "Advances Made in Our Knowledge of Disease" at the inaugural general meeting, August 6. The association is organized in thirteen sections: mathematical and physical science, chemistry, geology, zoology, geography, economic science and statistics, engineering, anthropology, physiology, psychology, botany, educational science, agriculture. Addresses will be delivered by the sectional presidents and papers will be read on and after August 7. There will be a series also of popular lectures during the week by prominent visitors. Arrangements are being made with the railway companies for reduced rates on return fares. Hotel accommodation should be reserved in advance of the meeting.

**Extent of Rural Health Service**—The Rural Sanitation Office of the U. S. Public Health Service has published a tabulation by states of counties or districts in the United States which on Jan. 1, 1924, were provided with local health service under the administration of whole time health officers. There are thirty-six counties in the list which were not previously provided with rural health service and sixteen counties which discontinued their health services, leaving a net gain for the year of twenty counties and a total of 250 for the entire country. Most of the increases during the year were in states in which the state health departments or the International Health Board, or both, with the cooperation of the U. S. Public Health Service, were enabled to assist with technical advice and finances. The largest loss of units was in Vermont, where ten district health departments were terminated, June 30, 1923. Vermont's district health officers, who for several years had furnished whole time health service to all the rural districts in the state, were appointees of the state board of health, which paid them from a special appropriation. The local governing bodies technically had no say in their appointment and appropriated no local taxes for this service. Had they been partners in the health business, sharing political and financial responsibility for its success instead of having all the health service come from the state capitol, the result of the attack made in the legislature in 1923 on the district health service, says the U. S. *Public Health Reports*, would have been different. Vermont, it is said, was an illuminating example of a state which did more than its proportionate part in local health service.

**Child Health Demonstration in Far West**—The Commonwealth Fund Committee recently announced that some community in the Far West would be selected for a five-year child health demonstration as a contribution to a national program for the health of children. The paramount consideration in selecting the community which will receive assistance and have an opportunity to show how much it may do to safeguard the health of its mothers and children will be the sincerity of the community's desire to develop and complete a rounded child health plan for the community as a whole. The objectives of this demonstration, which will be the fourth to be organized with the assistance of the Commonwealth Fund Committee, will be (1) a careful inventory and study to determine the health needs of the community, (2) to prepare a program that may adequately meet these needs, (3) to select a personnel of such training and experience as may give reasonable assurance of maximum results, (4) to measure and evaluate methods, results and costs for general publication and (5) to conduct the demonstration along practical lines so as to stimulate other communities in the Far West to undertake similar activities. The attitude of the committee to the medical profession of the community to be selected, whose sympathetic support and hearty cooperation the committee considers necessary to success, is expressed in the last annual report as follows: "Whatever be the merits of state medicine, the Commonwealth Fund is not lending its

influence to anything of the sort It has no desire to interfere with the practice of private physicians, on the contrary, their cooperation has been sought and freely offered An educational and preventive program of this character, far from decreasing the need of the physician's service, should increase it Absolutely no remedial work is or will be done, while the influence of the demonstration staff is constantly exerted in educating people to make use of the physician's services in order not alone to get well but to keep well"

## FOREIGN

**Italian Hospital at Tokyo**—The Italian Red Cross sent to Japan materials for ten small hospitals, and the first was dedicated recently with much ceremony It is constructed on the "Messina plan," that is, the type found most useful after the Messina earthquake a few years ago and best adapted to resist earthquakes

**Memorial to Sir Malcolm Morris**—At a recent meeting of representatives of the various hospitals and organizations with which the late Sir Malcolm Morris was connected, it was resolved to perpetuate his memory by providing for an annual lecture on the preventive aspects of public health and dermatology It is hoped also to endow a bed for skin diseases at St Mary's Hospital, London, England A representative committee was appointed of which N Howard Mummery is the honorable secretary Funds in any amount will be gratefully acknowledged if forwarded to the Treasurers, Malcolm Morris Memorial Fund, 12 Stratford Place, London, W L, England

**Canton Donates Tract for Medical School and Hospital**—In recognition of service rendered the municipality, the city of Canton, China, has donated a tract of 20 acres within two miles of the center of the city to the Canton Hospital, on which it is hoped to construct a modern medical school and hospital The mayor of Canton, Sun Fo, the son of Dr Sun Yat Sen, in presenting this land, said in part

> Through the Canton Hospital, modern medicine was introduced into the Orient For 88 years the Canton Hospital has been an efficient medical institution which has treated more than two million sick and disabled people Several hundred doctors and nurses, graduates of this school, are doing useful work and are respected members of the community This government has knowledge in general of the plans for the construction of a new plant on the site granted by the government with hospitals and medical and nursing schools and other necessary buildings Those who contribute toward these will be rendering a great service to the people of South China, who have confidence in the Canton Hospital, the Chinese name of which—Pok Tsai—is a household word

**Personal**—The gold medal of the British Medical Association has been awarded to Dr Henry B Brackenbury for services to the association and the medical profession——Prof A V Hill of University College, London, delivered the Oliver-Sharpey lectures at the Royal College of Physicians of London, April 29 and May 1——Dr S Kitasato, of the Kitasato Institute for Infectious Diseases, has been created a baron by the emperor of Japan in recognition of his services to his country He is dean of the Medical College of Keio University, and the first physician not connected with the government to be so honored——Dr Wilfred Trotter delivered the annual oration of the Medical Society of London, May 5, on "Certain Minor Injuries of the Brain"——The fifth Maudsley lecture was delivered by Dr John Carswell, commissioner of the Scottish Board of Control, on the subject of "Mental Disorders"——The city of Vienna has conferred honorary citizenship on Prof S Freud in token of appreciation of his contributions to science——A tragedy by Dr F Wolf, a small-town practitioner in Germany, is now being played at one of the principal theaters in Dresden——"Arthritism in Children" was the title of the interchange lecture delivered recently at Paris by Martinez Vargas, rector of the University of Barcelona, and "Pylorostenosis in Infants," the title of the lecture by Prof E Suñer of Madrid

## CORRECTIONS

**Utah Instead of Michigan**—In an editorial in the State Board Number of THE JOURNAL, April 26, 1924, p 1363, footnote 3, it is stated erroneously that during the last seven years the state of Michigan licensed three osteopaths as physicians and surgeons The state intended was Utah

**Chiropractors' Certificates Refused**—THE JOURNAL, May 10, 1924, noted that the state board of education of New Jersey had announced that teachers' certificates for absence on account of illness issued by chiropractors and osteopaths would not be honored by the board It was the Jersey City board of education which made this announcement, and not the state board

# Government Services

### Hospitals Authorized

Pursuant to instructions of the Secretary of War, the organization of the following hospitals, organized reserves, has been authorized General Hospitals No 58 (St Francis Hospital Unit, Hartford, Conn), No 100 (St Mary and Elizabeth Hospital Unit, Louisville, Ky), and No 19 (The Rochester General Hospital Unit, Rochester, N Y), Surgical Hospitals No 38 (Stamford Hospital Unit, Stamford, Conn), No 66 (Murray Hospital Unit, Butte, Mont), and Evacuation Hospital No 40 (University of Georgia Medical Department Unit, Augusta, Ga)

### Graduation at Army Medical School

The graduation exercises at the Army Medical Center, Washington, D C, will take place June 6, 1924, and will include the Army Medical School, Army Veterinary School, Army Dental School and the Army School of Nursing The Secretary of War will make the presentation of diplomas and medals The Army Medical School class comprises thirty seven captains, one of whom is of the Oregon National Guard, one first lieutenant, and one major of the Cuban army The honor graduates are Capts Philip L Cook (Hoff medal), Albert G Kinberger (Sternberg medal), George P McNeill, Jr, Bernard A McDermott, Lewis B Bibb and Clyde C Johnston

### Method of Computing Bonus

The director of the United States Veterans' Bureau has issued instructions which will enable World War veterans to compute the amount of paid-up twenty-year endowment insurance, purchased by the adjusted service credit under the provisions of the Adjusted Compensation Act Attention is called to the fact that the 25 per cent increase to be added to the adjusted service credit has already been incorporated in the factor and should not be added to the adjusted service credit before multiplying by the factor

*Factors and Instructions*

| Age | Factor | Age | Factor |
|---|---|---|---|
| 20 | 2 545 | 43 | 2 439 |
| 21 | 2 544 | 44 | 2 426 |
| 22 | 2 542 | 45 | 2 413 |
| 23 | 2 540 | 46 | 2 398 |
| 24 | 2 539 | 47 | 2 381 |
| 25 | 2 537 | 48 | 2 364 |
| 26 | 2 535 | 49 | 2 345 |
| 27 | 2 532 | 50 | 2 324 |
| 28 | 2 530 | 51 | 2 302 |
| 29 | 2 527 | 52 | 2 279 |
| 30 | 2 524 | 53 | 2 254 |
| 31 | 2 521 | 54 | 2 228 |
| 32 | 2 517 | 55 | 2 201 |
| 33 | 2 513 | 56 | 2 172 |
| 34 | 2 509 | 57 | 2 143 |
| 35 | 2 504 | 58 | 2 113 |
| 36 | 2 498 | 59 | 2 083 |
| 37 | 2 492 | 60 | 2 050 |
| 38 | 2 485 | 61 | 2 018 |
| 39 | 2 478 | 62 | 1 986 |
| 40 | 2 470 | 63 | 1 954 |
| 41 | 2 460 | 64 | 1 921 |
| 42 | 2 450 | 65 | 1 889 |

INSTRUCTIONS

Allow $1 a day for each day of home service and $1 25 a day for each day of foreign service Deduct $60 from this sum Multiply the remainder by the factor opposite the age nearest birthday to date certificate is issued The factor includes the 25 per cent increase, and this increase should not be added to the adjusted service credit before multiplying by the factor

EXAMPLE

| | |
|---|---|
| Age at date of issue | 33 years |
| Home service | 180 days |
| Overseas service | 100 days |
| (180 — 60) × $1 00 = | $120 |
| 100 × $1 25 = | 125 |
| | $245 Adjusted service credit |
| × 2 513 | Factor at age 33 |
| | $615 Adjusted service certificate |

# Foreign Letters

## PARIS

*(From Our Regular Correspondent)*

May 9, 1924

### Vital Statistics of France for 1923

The minister of labor has just published the vital statistics of the ninety departments of France for 1923 The showing is a little more satisfactory than that of 1922 The total number of deaths has decreased by 22,000, while the total number of living births has increased by 2,000 The number of marriages, however, has diminished by 27,000

The statistics for the last four years and those for 1913 (which include the three departments of Alsace-Lorraine) are as follows

| Years | Population | Living Births | Deaths | Marriages |
|---|---|---|---|---|
| 1923 | 39 209 518 | 761,861 | 666 990 | 356 501 |
| 1922 | 39,209 518 | 759 846 | 689 267 | 383 220 |
| 1921 | 39 209 518 | 813 396 | 696 373 | 456 221 |
| 1920 | 39 209 518 | 834 411 | 674 621 | 623 869 |
| 1913 | 41 476 272 | 790 355 | 731 441 | 312 036 |

The figures for the population in 1920-1923 are those of the last census (as of March 6, 1921), in the ninety French departments The population for 1913 is based on the 1911 census of the former eighty-seven French departments, and on the 1910 census for the departments of Bas-Rhin, Haut-Rhin and Moselle

The birth rate (living births) for 1923 was 19 4 per thousand inhabitants, which is lower than the rates for 1921 and 1920 (20 7 and 21 3 per thousand), but slightly higher than the rate for 1913 (19 1 per thousand)

The death rate for 1923 dropped to 17 0 per thousand, as against 17 6 in 1922 and 17 6 in 1913

The proportion of newly married persons for 1923 decreased to 18 2 per thousand as compared with 19 5 in 1922, 23 3 in 1921, and 31 8 in 1920, but was still considerably higher than the proportion for 1913, namely, 15 1 per thousand

To sum up The statistics for 1923 show a marked decrease in mortality, the death rate being the lowest ever recorded in France The birth rate was stationary, as compared with 1922 The marriages show a progressive return to normal, after the exceptional increase that followed demobilization

#### EXCESS OF BIRTHS OVER DEATHS

The year 1923 gave an excess of births over deaths of 94,871, or 2 4 per thousand population, as against 70,579, or 1 8 per thousand, in 1922, 117,023, or 3 0 per thousand, in 1921, and 159,790, or 4 1 per thousand, in 1920 The increase in the excess for 1923 as compared with that for 1922 is due almost entirely to the decrease in the number of deaths (689,267 in 1922 and 666,990 in 1923) The increase in the total number of living births was very slight from 759,846 in 1922 to 761,861 in 1923

While the excess of births in 1923 is higher than that of 1922, it is sensibly lower than in 1920 and 1921

#### COMPARISONS WITH OTHER COUNTRIES

The demographic situation in France, while slightly better than in 1922 and in the years immediately preceding the war, is nevertheless, not at all favorable as compared with that of other nations In the countries that were actively involved in the World War, the excess of births over deaths decreased, it is true, during the period of the conflict and in many countries there was even an excess of deaths over births, for example, in Belgium, from 1916-1918, in Austria, in 1918 and 1919, in Germany, in 1917-1918 and in Spain and Italy during 1918 (influenza epidemic) But the excess of deaths over births was less in these countries than in France, and, furthermore, the close of the war brought, in these countries, a marked increase in the excess of births over deaths In 1921 and in 1922, their excess of births over deaths, considered from the standpoint of population, was from three to five times as great as the excess recorded for France

#### THE CAUSES FOR A LOW BIRTH RATE

It is difficult to determine the causes that influence a low birth rate Some affirm that industrialism exerts a stimulating effect on the birth rate, and they cite as an example the department of Pas-de-Calais, in which, in 1923, there was an excess of births over deaths of 13 0 per thousand population, and the department of Nord, in which an excess of 8 1 per thousand was recorded But, on the contrary, the department of the Loire is industrially highly developed, and yet the number of deaths almost equaled the number of births And the department of the Rhone has many large industries, yet the total deaths were sensibly higher than the births. Nor can the poverty of a given region be assigned as a cause The departments of Lozere and Corse are economically among the poorest in France, and yet their population has increased considerably whereas in the rich department of the Seine-et-Oise, there is a frank excess of deaths over births Some have urged the unfavorable influence of urban centers, but even this is not yet demonstrated The population is increasing, owing to an excess of births over deaths, in the departments of the Seine (Paris), and the Seine-Inferieure (Rouen and Le Havre) but is decreasing in the department of the Rhone (Lyons) and in that of the Gironde (Bordeaux), and is remaining almost stationary, with a slight excess of births, in the department of the Bouches-du-Rhone (Marseilles)

#### FOREIGN IMMIGRATION

In 1921, 1 550,000 immigrants (counting only manual laborers) entered France In 1923, the number reached two million and more In 1921, Paris and the department of the Seine counted 233 820 foreigners, 169,500 of whom were within the corporate city limits The number has now reached 400,000 The beginning of October, 1923, 3,922 children of foreign parentage had secured admission to the public schools of Paris These children belonged to thirty-two different nationalities There were 1,017 children of Italian parentage, 656 of Russian descent, and 601 of Polish origin, then came Roumania, Belgium, Spain and the Levant, all of which contributed around 250 children to the school population of Paris These figures suffice to show the importance of immigration In view of this foreign immigration, the question is beginning to be asked seriously whether a rational assimilation of foreign elements might not constitute a remedy (at least, palliative) against depopulation If this question is answered in the affirmative, immigration should be supervised and regulated as the United States is doing, by refusing admission to undesirables and by favoring the entrance of selected races and individuals

### Necrology

Dr Henri Bertin Sans, former professor of hygiene at the Montpellier Faculty of Medicine, has died aged 93

The death of Dr Henry Parent, former president of the Ophthalmologic Society of Paris, at the age of 75, has been announced

Dr Antony medical inspector (with the relative rank of brigadier-general) of the reserve forces, former professor at the Ecole d application de medecine et de pharmacie militaires of Val-de-Grace former director of the medical service of the sixth army corps, has died at Nyons (Drome), aged 75

### A School for Librarians

At the instance of Miss Jessie Carson director of the library section of the American commission for the devastated regions of France a school for librarians has been

organized in Paris Miss Carson, in connection with her work establishing libraries in the department of the Aisne, recognized the need of creating in France a school that would aid in the recruiting of an experienced library personnel The school is located at rue de l'Elysee, 10, the headquarters of the American Library, with which it is closely affiliated, and is under the direction of Miss Sarah C N Bogle, associate secretary of the Association of American Librarians, who is assisted by Miss Mary P Parsons, associate director of the school for librarians

## LONDON

*(From Our Regular Correspondent)*

May 12, 1924

### New Biochemical Laboratories at Cambridge

The leading school of physiology in this country, that of Cambridge, has received a valuable addition to its resources, making possible for the first time the concentration of the main activities of the school of biochemistry within one well equipped and thoroughly up-to-date building The laboratories have been made possible by the decision of the trustees of the will of Sir William Dunn, a London merchant who died in 1908, to devote to biochemistry the residue of the estate, which was left with instructions that it was to be used for the "alleviation of human suffering" The actual building has cost $480,000 Besides a spacious general laboratory at the top of the three-story structure, there are about twenty rooms, fully equipped on most modern lines for research There is a large library

Lord Balfour, as chancellor of the university, opened the Sir William Dunn Laboratories He referred to the happy circumstance that the trustees, selected to carry out duties entirely alien to those connected with their commercial work, should have shown themselves so competent as to realize, if they were to deal with the alleviation of human suffering, they could not do better than present Cambridge University with that great educational institution Lord Balfour asked what biochemistry could do for mankind which chemistry, especially organic chemistry, was not qualified to do already? Biochemistry had a utility all its own If one approached the subject from the side of chemistry alone, one arrived at a number of very interesting truths, but one would not arrive so quickly or so effectively at the truths which that institution was designed to elucidate, as if one approached the subject with biologic considerations in mind The biologist and the chemist had, no doubt, part of their field in common, but unless that part of the field which affected physiology was approached from the chemical side with a biologic basis, secrets of Nature would remain hidden and progress retarded He believed that the attempt to organize all the forces of research in alleviating cancer was of infinite moment to their future But, if the time was ever to come when the intimate causes of this scourge were discovered, and a flood of light thrown on the detailed facts which generations of physicians had accumulated, it would be through some discovery made by a student who was not thinking especially of cancer or any other morbid growth, but whose discovery would open up some generalization, some new way of looking at familiar facts, which would illuminate this profoundly obscure question If that happened, they might confidently believe that it would happen in some school of biochemical research, where students had devoted themselves with a pure love of knowledge to the penetration of the secrets of Nature

### Birth Control Instruction

Mr Wheatley, minister of health, received a deputation on birth control The deputation, which was organized by the Hon Mrs Bertrand Russell's Birth Control Committee, included members of the medical profession, representatives of Dr Stopes' Constructive Birth Control Society, the New Generation League, and Birth Control Clinics, and Mr H G Wells The deputation urged that the minister should remove the embargo on the giving of information with regard to methods of birth control at maternity centers In their opinion it was contrary to the whole policy of the labor party to deny working women access to knowledge which was readily available to people who could afford to pay for it They also requested that the minister should make it quite clear that physicians in the public health service were free in their public capacity to give this information when they considered it medically advisable The minister, in reply, said that a clear distinction must be drawn between allowing access to knowledge and actually distributing knowledge No one would seriously maintain that access to knowledge should be forbidden, but public opinion on this question was not so definite that it would allow state and rate aided institutions to do more than direct people in need of advice as to where it should be obtainable The decision in fact must be with parliament, and not be assumed by administrative action

### Samuel George Shattock

The death from pneumonia at an advanced age of Prof Samuel George Shattock, F R C S, F R S, pathologic curator of the museum of the Royal College of Surgeons, has removed from the English medical world a foremost and, in some ways, unique figure Born in 1852, he was educated at University College and took the diploma of M R C S in 1874 and the F R C S in 1881 Almost from the first, he devoted himself to pathology In 1876 he began, under the supervision of the late Mr Marcus Beck, a descriptive catalogue of the specimens of surgical pathology in the museum of University College In 1878 he began an investigation of the reparative processes in vegetable tissues, and also began to outline the attachment of muscles on a series of human bones which now is an exhibit in the museum of the Royal College of Surgeons He was then appointed curator of the pathologic-anatomic museum of University College, and in 1884 curator of the Museum of St Thomas' Hospital In the following year he established a voluntary class in surgical pathology at the hospital, and in 1886 was appointed to give demonstrations on surgical pathology In 1888 he became a lecturer on the subject, and delivered the first course of lectures on the subject given in London In 1894 he delivered the Morton lecture on cancer at the Royal College of Surgeons, in which he reported a series of experiments, made with Sir Charles Ballance, to test the theory, then much discussed, that cancer is a microbial disease His conclusions were stated with characteristic caution, but he pointed out certain analogies to vegetable galls He had always given much attention to plant pathology, and in 1881 read a paper to the Linnaean Society on the reparative processes in plants, illustrated by specimens which he presented to the museum of the Royal College of Surgeons In 1897 he was appointed pathologic curator of the museum, and began to prepare a series of cultures of pathogenic bacteria rendered permanent by formaldehyd vapor On the lines of the hunterian tradition, he performed an immense work at the college, selecting, preparing, arranging and cataloguing specimens His crowning work, begun with his assistant, Mr Beadles, in 1910, was a splendid collection of specimens illustrating the principles of general pathology, which he had not completed when overtaken by death He had a good working knowledge of Latin, and in 1900, when editor of the Transactions of the Pathological Society, introduced the practice of giving a summary in Latin of some of the contributions for the benefit of foreign readers An indefatigable and accurate worker, his opinion was universally regarded as final on any disputed pathologic specimen His colleague, Sir Charles Ballance, has described him as "the English Virchow" Wil-

the American surgeons met in London in 1914, he delivered a lecture to them on the invitation of the president of the Royal College of Surgeons He was a shy, retiring man, with no desire for notoriety, who found his reward in his work But he had a few interests outside it, which were known only to the few who had the privilege of intimacy with him The book he loved best was the 'Imitatio Christi," by Thomas a Kempis, which he knew by heart

## BELGIUM

*(From Our Regular Correspondent)*

May 7, 1924

### The Brussels Medical Convention

The fourth session of the Brussels Medical Convention will be held in the Palais d'Egmont from June 29 to July 2, under the patronage of the king and queen of Belgium Many distinguished men of science have given their support to these scientific meetings, where hundreds of practitioners gather every year

As on the three previous occasions, the medical men of Brussels have endeavored to emphasize the practical side of the convention The mornings will be reserved for operative and clinical demonstrations in the hospitals and the clinics The afternoons will be taken up with lectures, communications and motion pictures (particularly numerous this year) In three days, with the aid of the Brussels departmental heads and foreign specialists, the visiting physicians will be put in possession of everything new in the therapeutics and the surgery of all the medical specialties Among those who have thus far announced their willingness to read a paper, I may mention Dr Alexis Carrel, of the Rockefeller Institute of New York, who will speak at the opening session on Trephones cellulaires et leurs fonctions", Professor Bordet, Prof Marcel Labbe, Professor Pauchet, and Dr Levaditi

The fourth day of the session (July 2), the convention will meet at Liege where a committee of which Prof Henrijean is chairman, is preparing a scientific meeting of great interest

An international exhibition (Germany excepted) of pharmaceutic products, of displays from health resorts, of surgical instruments and operative apparatus will be held in the Palais d'Egmont for the duration of the convention

### Exophthalmic Goiter and Insulin

Dr Golfin speaking before the Societe clinique des hopitaux of Brussels recently, presented an interesting communication on the treatment of exophthalmic goiter with insulin In four cases he was able to bring about a frank amelioration of the symptoms, whereas all other forms of medical therapeutics had failed The author thinks that the good effects of insulin may be due to its action on the sympathetic system or the endocrine glands

### Smallpox Vaccination

In order that a sufficient quantity of vaccine might always be on hand to supply the needs of physicians for vaccination and revaccination against smallpox, a state bureau of vaccination was created in 1882 The bureau sets for itself the task of producing an ample quantity of animal vaccine and of placing it at all times, in unlimited quantities at the disposal of the municipal and communal administrations and the medical profession in general

The vaccine was cultivated originally in calves, but since 1897 all inoculations have been made on adult bovines The animals to be inoculated are first examined as to their state of health and are subjected to the tuberculin test The vaccinal lymph is not used unless at necropsy the director has personally convinced himself of the sound state of the organs Several months are allowed to elapse after its preparation before it is distributed Since 1909 the laboratory of the public health service has made periodically a bacteriologic examination of the vaccine produced by the bureau Since 1910, the bureau has produced a vaccine in powder form, for use on the Congo

Physicians are requested to fill out a form and send it in to the bureau, giving information in regard to the number of vaccinations performed and the results secured The report of the administration of public health states that, during 1921, the bureau of vaccination distributed nearly 450,000 vaccine units in Belgium and 525,000 units on the Congo

### The Menace to Society of Allowing Insane Persons Their Liberty

Several recent attacks of insane persons on alienists have awakened public consciousness to the danger of allowing insane persons to be at liberty Dr Crocq has been making a medicolegal study of the question and has submitted to the Societe belge de medecine legale a series of proposals looking forward to the creation of measures for social protection

1 Since every insane person is liable to commit crime, the notification of mental disease should be made compulsory Every insane person who is kept at home should be examined by a board of expert alienists, who would decide on the disposition of the patient

2 The director of a psychopathic hospital should not have the right to declare cured and to set at liberty patients other than those who have shown themselves harmless and have never, either previous to their commitment or during their detention in the hospital, manifested any antisocial tendency toward others or toward themselves If the patient has shown, at any time, such tendency, the director should submit to the authorities his proposal to release the patient, but he should not be released until the board of alienists has given its approval

3 Dismissal on probation should be subject to the same regulations

4 Patients who have been committed should not be released by those who placed them in the institution, except on approval of the director

5 Only professional psychiatrists should be permitted to render expert opinions, either as regards the mental examination of suspects or the question of releasing patients who have already been committed

## MADRID

*(From Our Regular Correspondent)*

April 1, 1924

### Second Spanish Congress on Medical Hydrology

The Spanish Congress on Medical Hydrology, which had not met for thirty-six years, held its second meeting, March 15-20 Those interested in mineral springs, physicians, chemists, other scientists and owners of establishments, attended The president of the congress, Count Gimeno, delivered an opening address on "The Secrets of Mineral Waters," in which he reviewed recent advances in chemistry in relation to hydrology The address was interesting, for Dr Gimeno is at home when speaking of art, politics or medicine There were many other important addresses and the discussions were very lively At the last session the congress approved the establishment of a small tax on patients at spas to improve the sanitation and roads It urged provincial and municipal authorities to furnish indigent patients with attendants and funds for treatment, and decided to ask railroad companies for rates for indigent patients and to protest against providing the Moroccan army with artificial mineral waters as this is unscientific and harms the owners of mineral springs

About 100 members attended the congress and more than fifty papers were presented It is to be regretted that the

subjects presented were so technical, for the discussions were practically limited to physicians in charge of spas. No effort was made to have some one speak on behalf of the public, which is paying enormous prices for mineral waters, and putting up with obsolete equipment and medical service at bathing resorts. This is one chief cause of the discredit of Spanish hydrology. The government created originally a permanent mineral springs medical service, but it led to abuses. Patients were compelled to call on the physician in charge on arrival and to pay 7.50 pesetas (about $1) for the call. This created among the physicians an *esprit de corps* which hampers research, as the physicians know they will be transferred eventually to larger resorts, where their income will also increase. As these physicians grew old, it was necessary to establish another corps of physicians, which were called "habilitados" (assistants). The new physicians had the same rights as the previous officeholders, and where the medical director was too old to attend patients, they took charge and gave to the older incumbent half of the collections. Small resorts were frowned on, except as stepping stones, and when the number of patients increased in a spa, the position was given to physicians who were highest on the panel. Thus there were few who were sure of their places. When finally they secured a permanent place, they were old and tired, and, with few exceptions, scientific work held no attraction. The country expected that, as the old physicians retired, their places would be taken by young men who would study the springs and, through researches, give new life to Spanish hydrology, which has an old and brilliant history. The new government has made things worse. It has added to the permanent corps of spring physicians temporary appointees, already too old to be efficient. There is therefore no hope for young physicians in the spas, nor any stimulus to perform scientific work, in spite of the fact that Spain has some of the best springs in the world.

### Trouble and Honor for Cajal

The Buenos Aires Spanish Culture Institution, a society organized to further scientific research through granting awards, has granted to Ramon y Cajal its first prize this year. The money awarded included interest on funds collected in Argentina on Cajal's retirement and amounted to 32,759 pesetas (about $4,400). The University of Paris has also appointed Cajal an honorary physician.

When Cajal retired for age, a few months ago, his place was filled by the senior professor then teaching histology, who, like all other professors here, increases his income through the sale among students of his own book on histology. The result is that Cajal's textbook on histology has lost its best market among Madrid medical students. This means a large loss for Cajal, but an even greater one for the students, for Cajal's is by far the most complete treatise in Spanish. A number of Cajal's pupils protested, but were unable to give any actual grounds for their action, and Cajal's successor published a statement in medical journals which expressed astonishment at the campaign against him. He claims that, among the histologies recommended by him, Cajal's book appears on the list and his own is omitted, and that no blame should be attached to him if students prefer his book to Cajal's. It is a fact, however, that students buy the new professor's book just to flatter him, an old and well known trick. It is to be regretted that Cajal should be succeeded by a professor who, according to Cajal himself, ignored in his book the work of Cajal and his pupils, which fills forty volumes.

### Pittaluga Discusses Malaria

In the National Academy of Medicine, Professor Pittaluga has given a lecture on the need of government funds to combat malaria and antimalarial legislation. He based his arguments on the death certificates in 2,000 deaths from malaria. This is a smaller number of deaths than the number in Italy, where, after a vigorous campaign for many years, the death rate reached a minimum of 4,000 a year. From available figures, Pittaluga estimates that there are 350,000 cases of malaria in Spain each year, which figure is, of course, open to criticism. A clinician called his attention to the unreliability of death certificates, since physicians often diagnose malaria in any case presenting paroxysms of fever.

### The Madrid Medical School

Dr. Recasens, the dean, has discussed the organization of the Madrid Medical School in the press. There are 3,000 students in the school, which has facilities intended for only 800. Dr. Recasens believes that the number of students should not be limited, but that new buildings should be provided as soon as possible. The only pressing need is "more room", but improvement is possible in other ways. There are too many professors and too few assistants. The assistants receive no salary, and the professors are overworked. The laboratory fees of the students are inadequate, supplies are very expensive, and the professors often furnish them out of their own pockets. A new "university city" has been planned, and construction will soon begin. We are forced, said Professor Recasens, to take America as our model. There are two universities in Chicago having parks as large as the largest in Madrid, and thus they are able to live their own life, secluded from the outside world. Yale is really a city in itself. In Boston there is even a church which belongs to the university. We must apply these methods in Spain. Dormitories and laboratories must be erected. There is no question of their inadequacy, but we must not follow Harvard and limit the number of students in accordance with laboratory facilities. Of course, the medical school would have lost many students if enrolment had been limited to those for whom laboratory facilities were available. The best equipped institution in Spain is the Madrid school, but even it needs facilities, and nothing is being done to limit enrolment. Some professors boast that they have never kept a pupil back, and their examinations have become a mere form. The anarchical condition of teaching is such that when a professor is firm, his students enroll in another university, take their examinations, and return to their own home town. In capitals of the fourth rank, there are universities having more pupils than colleges in more important cities. "Free teaching" allows students to enroll, *without attending* classes or laboratory, and to present themselves for examination and thus to become licensed physicians. In small town universities, examination days are practically holidays, and hotels are crowded with guests. Politics, in which the hotel owners play a part and enrolment fees which go to the local school, permit this farce to continue.

## BERLIN

*(From Our Regular Correspondent)*

May 10, 1924

### The Present Organization of the Public Health Service of Greater Berlin

The public health service of Greater Berlin was reorganized in January, 1924, on the following basis. The chief public health office is under the direction of the city health commissioner *(Stadtmedizinalrat)*. He is assisted by a medical director, in the chief public health office, for general and personal affairs and matters concerning the general hospitals, five medical departmental directors for the chemical institute, the hygienic-bacteriologic institute, for the hospitals and institutions for the insane, for the social hygiene and for the emergency service. The director and the departmental directors are further assisted by scientific investiga

tors The public health office has also a legal and an industrial expert The various districts into which Greater Berlin is divided (Charlottenburg, Schoneberg, etc ) have district public health offices, directed by municipal health officers from the head office Subdivisions of the public health service are

A General care of the public health (1) The chemical institute at the chief public health office Its chief functions are supervision of the milk supply, the water works and public wells, drainage, examination of foodstuffs, issuance of permits for the erection of industrial plants, (2) hygienic-bacteriologic institute public laboratory for the examination of infectious material sent in by physicians, bacteriologic, serologic and hygienic experimentation, organized crusade against diphtheria, combating of epidemics in municipal institutions and industrial plants, training school for disinfectors, (3) schools for infant caretakers and nursing personnel, (4) supervision of midwives (enforcement of the law of July 20, 1920)

B Prophylactic care of public health care of expectant mothers, care of infants and of young children There are sixty-three infant welfare centers with 168 caretaking nurses The physicians are furnished, in part, by the chief office The children remain usually under the supervision of the same welfare center until they are 6 years old Medical treatment, other than dietetic, is not usually given sick children, except in hereditary syphilis In the school health service, physicians are employed, being assisted by school nurses or school welfare workers There are 400,000 pupils in the public schools of Berlin, and for every ten to twelve thousand pupils there is a head school medical officer, and for every three to four thousand there is an assistant school medical officer Recently the municipal higher schools, and also the secondary and continuation schools have been included for school inspection purposes in the public school inspection system For the dental care of school children there are seventeen dental clinics with thirty-nine school dentists and twenty-three dental nurses For venereal disease patients there are four ambulatory clinics, and also seven welfare centers that give advice and exercise a general supervision Provisions are made also for alcoholics, neurotics and mental cases The consultation services are, in part, in charge of specialists For the enforcement of the cripple welfare law of May 6, 1920, there are eight welfare centers in charge of specialists Each center has the supervision of several municipal districts Especial importance is attached to the combating of tuberculosis, and in this connection the main idea emphasized is that the disease must be combated as an epidemic affecting the whole people The general welfare centers are being developed further In Old Berlin there were no municipal welfare centers up to 1922 Now there are welfare centers at the four largest municipal hospitals Berlin has a total of twenty-four welfare centers, with forty physicians and sixty-three nurses From the standpoint of organized efficiency, an important step forward was taken through the creation of a merger with the provincial insurance office of Berlin

C Care of individual patients In the municipal institutions there are about 12,100 beds available, 5,800 beds in psychopathic institutions, 4,300 in hospitals proper and about 2100 beds in other institutions, among which are 660 in health centers for the tuberculous In addition, Berlin has the legal right to demand the use of 4 000 beds for mental patients and hospital cases in the institutions of the province of Brandenburg The general hospitals receive mainly the grave cases The *Leichtkrankenhauser* (hospitals for mild cases) admit such patients as do not require the use of the expensive apparatus and equipment of the general hospitals The ambulatory clinic for patients with tuberculosis of the bones and joints, conducted jointly with the ministry of ecclesiastical affairs and public instruction *(Kultusministerium)*, fulfils a similar purpose Employed in the municipal institutions there are about 450 physicians, 175 interns, 2,000 nurses (exclusive of the pupil nurses), 2,530 caretaking personnel, and a large number of general employees

D Of other subdivisions of the public health service may be mentioned the emergency and first-aid service, with thirty-six centers distributed about the city, the ambulance service for the transportation of patients, the information bureau that keeps an up-to-the-minute record of the number of vacant beds in the various hospitals, and the public baths with twelve bath houses, some of which have modern equipment The chief public health office collaborates also in the administration of the poor fund, and likewise in welfare work among the war injured A year ago, for the first time, a municipal industrial physician *(Gewerbearzt)* was appointed whose duty it is to familiarize himself with labor conditions and to aid applicants in securing employment

### The Selective Effect of Food Scarcity on Aged Persons

The results of food scarcity would naturally be observed earliest and most intensely in aged persons In the 70-75 age group, the death rate of men (according to a publication by Dr Roesle, of the federal public health service) increased steadily from 80 2 per thousand in 1913 to 106 0 in 1917, whereas the mortality rate of women in 1915 was somewhat lower than in 1914 But by 1917 the death rate of women had risen to 90 8 from 78 8 in 1916, and in 1918 it rose to 95 2, whereas in that year the death rate of men began slowly to decline With reference to the age group of 75 80 and beyond, the resistance of the women was broken as early as 1917, for, from then on, their mortality rate was the highest, and likewise for the men it was the highest, beginning with the age group 55-60 The greater resistance of the weaker sex was thus demonstrated in the greatest period of distress The increased mortality was noted in the men of these groups as early as 1914, but was not observed in the women until 1916 In 1917, the maximal figure for the death rate of men was 167 0 and for women, 150 3 In the 80 85 age group, however, the increase in the mortality rate was noted in 1914, and, as was true of the men, the rate increased rapidly up to 1917 In 1917, more than 25 per cent of the men of this age group were carried off and almost 25 per cent of the women, as compared with a mortality of 16 per cent in 1913 The age group of 90 and over was affected most of all, in 1919 there were in Germany only 11,318 persons belonging to that age group, among these, eighty-six over 100 years old The average life expectancy of persons aged 90 is something over two years, but this short period was reduced by the war to a minimum The death rate of men aged 90 rose from 1914 on, from 387 to 578 in 1917 The death rate of women aged 90 increased, during the same period, from 373 to 559 In 1917, therefore, more than half of the persons aged 90 were carried off

## Marriages

CHARLES WESLEY OLSEN Chicago, to Miss Rhoda Francis Tolman of Emmet, Idaho, May 14

LOUIS LEO PERKEL, Jersey City, N J, to Miss Flora Sonia Levin of Detroit, May 4

WILLIAM A SIM, JR, Quincy, Ill, to Miss Jessie E Summers of Melrose, May 7

MICHAEL C C LILIENFIELD to Miss Helen Post, both of New York, recently

OLAF ELMER SATTER to Miss Bernice N Long, both of Chicago May 1

# Deaths

**Joseph Henry O'Connell** ⊕ New York, Columbia University College of Physicians and Surgeons, New York, 1898, associate professor of diseases of the ear at the New York Post-Graduate Medical School, on the staffs of the New York Post-Graduate and St Vincent's hospitals, aged 51, died, May 19, of pneumonia

**Charles W Gibson,** Batesville, Ind , Louisville (Ky ) Medical College, 1892, member of the Indiana State Medical Association, formerly mayor of Batesville, aged 54, died, May 14, at the Christ Hospital, Cincinnati, following an operation

**Milton Chase,** Voorheesville, N Y , University of Michigan Medical School, Ann Arbor, 1861, Civil War veteran, formerly health officer of Otsego, Mich , at one time member of the school board, aged 87, died, May 20, of acute pyelitis

**William Marion Pollard** ⊕ Atlantic City, N J , Jefferson Medical College of Philadelphia, 1882, formerly member of the school board, at one time on the staff of the City Hospital, aged 69, died, May 25, of cerebral hemorrhage

**John A M Gibbs,** Cairo, Ill , Rush Medical College, Chicago, 1868, member of the Illinois State Medical Society, formerly member of the school board, aged 80, died, May 6, following a long illness

**William Collin Welch,** New Haven, Conn , Yale University School of Medicine, New Haven, 1877, member of the Connecticut State Medical Society, formerly a druggist, aged 79, died, April 13

**Marlborough Churchill Wyeth** ⊕ Lieutenant Colonel, U S Army, retired, New York, Columbia University College of Physicians and Surgeons, New York, 1878, aged 69, died, May 14

**Finis E Wyatt,** Yorkville, Tenn , University of Nashville Medical Department, 1896, member of the Tennessee State Medical Association, aged 52, died, May 14, of pernicious anemia

**Elvin Franklin Baker,** Jacksonville, Ill , Chicago Medical College, 1867, member of the Illinois State Medical Society, member of the state board of health, aged 82, died, May 24

**Arno Klein** ⊕ Albuquerque, N M , Jefferson Medical College of Philadelphia, 1911, on the staff of St Joseph's Sanatorium and Hospital, aged 38, died, May 9, of tuberculosis

**John Andrew Calnané** ⊕ St Louis, Columbia University College of Physicians and Surgeons, New York, 1894, aged 59, died, May 12, at St Anthony's Hospital, of pneumonia

**John Landenberger,** New Prague, Minn (licensed, Minnesota, 1883), member of the Minnesota State Medical Association, aged 74, died, May 13, of cerebral hemorrhage

**Ernest Lindwood Burnham,** Sanford, Maine, Medical School of Maine Portland, 1895, member of the Maine Medical Association, aged 59, died suddenly, May 12

**John Sharp Gillespy,** Birmingham, Ala , Miami Medical College, Cincinnati, 1883, formerly county and city physician, aged 65, died, May 8, of cerebral hemorrhage

**Marguerite E B Thompson** ⊕ Phoenix, Ariz , Cincinnati (Ohio) College of Medicine and Surgery, 1898, formerly a practitioner in Chicago, aged 77, died, May 10

**Davis Elmore Cason,** Odenville, Ala , University of Nashville (Tenn ) Medical Department, 1870, also a druggist, Confederate veteran, aged 89, died, May 11

**Charles C Gratiot** ⊕ Shullsburg, Wis , Jefferson Medical College of Philadelphia, 1880, Civil War veteran, member of the school board, aged 76, died, May 20

**James Harris Knowles** ⊕ Gloucester, Mass , University of Pennsylvania School of Medicine, Philadelphia, 1886, aged 61, died suddenly, May 5, of heart disease

**Edwin Ferdinand Winterberger,** Chicago, Chicago College of Medicine and Surgery, 1909, aged 44, died suddenly, May 18, at the Mercy Hospital, Des Moines

**Henry Boyden Rowe** ⊕ Mount Airy, N C , University of Maryland School of Medicine, Baltimore, 1910, aged 39, died, May 16, following a long illness

**Rodney E Troutman,** Logansport, Ind , Rush Medical College, Chicago, 1904, member of the Indiana State Medical Association, aged 42, died, April 22

**Alvin St Clair Daggette** ⊕ Pittsburgh, Western Reserve University School of Medicine, Cleveland, 1881, aged 68, died, May 13, of pernicious anemia

**Mitchell L Chaney,** Lynchburg, Ohio, Cincinnati College of Medicine and Surgery, 1902, aged 47, died, May 8, as a result of a self-inflicted wound

**James Lane Napier,** Blenheim, S C , Medical College of the State of South Carolina, Charleston, 1868, aged 80, died, May 13, of cerebral hemorrhage

**Arthur G Lewis,** Sadorus, Ill , Western Reserve University School of Medicine, Cleveland, 1878, aged 76, died, May 16, of cerebral hemorrhage

**Edward A Quinn,** Cleveland, Tenn , Vanderbilt University Medical Department, Nashville, 1890, aged 69, died, May 6, following a long illness

**William H Oyler** ⊕ New York, Medical Department of the University of the City of New York, 1882, aged 66, died in May, of heart disease

**William Smith McMurdy,** Brooklyn, Medical Department of Columbia College, New York, 1886, aged 69, died, May 21, of paralysis agitans

**LaFayette Bennett,** Central City, Ky , University of Tennessee College of Medicine, Memphis, 1900, aged 47, died, May 22, of meningitis

**Lilburn Merrill,** Seattle, Denver (Colo ) College of Physicians and Surgeons, 1905, aged 43, was drowned, May 13, in Lake Washington

**William C Wingfield,** Shawnee, Okla , Kentucky School of Medicine, Louisville, 1878, aged 71, died, May 11, following a long illness

**John Wesley Harris,** Hollywood, Calif , Chicago (Ill ) Homeopathic Medical College, 1888, aged 61, died, May 9 of heart disease

**John Lovell Murray** ⊕ Toledo, Ohio, Detroit (Mich ) College of Medicine and Surgery, 1900, aged 48, died, May 7, of pneumonia

**Ruth Mitchell Lance** ⊕ Kingston, Pa , Cornell University Medical College, New York, 1910, aged 41, died, March 19, at Baltimore

**Charles Jenson,** Ephraim, Utah, College of Physicians and Surgeons, Baltimore, 1898, aged 54, died, May 11, of pneumonia

**Rudolph H Reemelin,** Cincinnati, University of Wurzburg, Germany, 1875, aged 69, died, May 5, at the Grand View Hospital

**Milton Fackler Sloan,** Stilwell, Kan , Louisville (Ky ) Medical College, 1876, aged 70, died, May 11, of arteriosclerosis

**Andrew Tazewell Baird,** Darlington, S C., Memphis (Tenn ) Hospital Medical College, 1886, aged 60, died, April 24

**William E Benton,** Harpster, Ohio, Starling Medical College, Columbus, 1872, aged 77, died, May 13, at Toledo, of senility

**Lloyd S Downs,** Waco, Texas, Eclectic Medical Institute, Cincinnati, 1885, aged 67, died, May 11, following a long illness

**Edward Kirk,** Philadelphia, Jefferson Medical College of Philadelphia, 1888, Civil War veteran, aged 77, died, May 16

**John Emerson Hansler,** Fonthill, Ont, Canada, University of Toronto Faculty of Medicine, 1883, aged 64, died, April 1

**Joseph D Roberts,** Terre Haute, Ind , Indiana Eclectic Medical College, Indianapolis, 1881, aged 69, died, April 12

**Otis Gould,** Oakley, Mich (years of practice), Civil War veteran, aged 77, died, May 12, following a long illness

**Willis M Hall,** Portland, Ind , Cleveland (Ohio) College of Physicians and Surgeons, 1893, aged 61, died, April 2

**Anna Warnecke** ⊕ Geneva N Y , University of Buffalo Department of Medicine, 1900, aged 60, died, May 11

**Charles Egbert Richards,** Pittston, Pa , Jefferson Medical College of Philadelphia, 1887, aged 59, died, May 13

**A L Hendon,** Holly Grove, Ala (licensed, Alabama, 1875), aged 74, died, May 6, following a long illness

**William D Drake** ⊕ Bolivar, Mo , Missouri Medical College, St Louis, 1898, aged 48, died, May 9

**Lorenzo D Haynes,** Erie, Kan , Kansas City (Mo ) Medical College, 1892, aged 69, died, May 13

**Samuel G Breeden,** Decatur, Tenn (licensed, Tennessee, 1889), aged 75, died, May 11

⊕ Indicates "Fellow" of the American Medical Association

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

## GLY-SC-IODONATE

### A Nostrum Sold Under Misleading Formula and References

A few months ago the Council on Pharmacy and Chemistry published a report on an alleged bactericide 'Gly-So-Iodonate" The product is put on the market by a company whose name is much more imposing than its importance warrants—the "National Medical Research Laboratories" of Milwaukee, earlier known as the "Wisconsin Medical Laboratories" The concern seems to have for its president and manager a man who sells office-filing equipment, and for its secretary and treasurer a lawyer Its vice-president, one Charles E Hutchings, who claims to be a 'medical man," seems to have been the prime mover in putting "Gly-So-Iodonate" on the market Hutchings, in letters, has frequently stated that he is a "graduate of King's College of Medicine, London," and has claimed, also, to be a "member of Marquette Medical College" An inquiry directed to King's College, London, brought the reply that they had no record of a man of this name on the medical register The Marquette University, School of Medicine, Milwaukee, seems to be equally ignorant of Hutchings' connection with that institution

The Council's report brought out the fact that "Gly-So-Iodonate," exploited to the profession as 'the bactericide the medical world has searched for since the days of Lister," is given a 'formula" by its exploiters which is chemically absurd Some of the declared ingredients were obviously incompatible, while the A M A Chemical Laboratory found that other ingredients were not present in the amounts claimed

Not only have physicians been urged to use this unscientific mixture but the concern has carried on an intensive and extensive advertising campaign in an attempt to place its nostrum with industrial concerns

After THE JOURNAL had published the Council's report and called editorial attention to the unscientific character of the claims made for the nostrum, the National Medical Research Laboratories sent broadcast a six page circular, three pages of which were devoted to what purported to be "A Partial List of Representative Industries Protecting Their Many Thousands of Employees from Infection With G-S-I" As it seemed reasonable to suppose that a concern which published a misleading formula for its product would be quite as likely to publish misleading references for the value of its product, some of the representative industries" listed by the exploiters of G-S-I were written to They were asked if there was any truth in the claim made by the National Medical Research Laboratories that the concern in question was really using Gly So Iodonate The following abstracts of letters received in reply may prove of interest

*St Luke's Hospital* Chicago—The superintendent reports Two of our doctors did use it and, according to them, found there was no particular advantage in it" It is no longer used

*St Mary's Hospital* Milwaukee—This institution reports that two years ago two doctors who are connected with an industrial plant' asked the hospital to get some G-S-I to use on patients they had in the hospital For a year past none has been used

*Milwaukee Children's Hospital*—Reports that Gly-So-Iodonate was used at one time but is no longer used

*Columbia Hospital* Milwaukee—Reports that the hospital has never used Gly-So-Iodonate for protecting its employees, but did purchase some on request of one physician on the staff who used it on his patients

*Evangelical Deaconess Hospital,* Milwaukee—Reports that two years ago the hospital was "either given or purchased" a bottle of G-S-I but has "at no time used this preparation"

*St Joseph's Hospital,* Milwaukee—"We are not using Gly-So-Iodonate We have no desire to advocate the use of any useless preparation nor have we done so in the case of G-S-I"

*Miami-Inspiration Hospital,* Miami, Arizona—Used some for a while in the dispensary "with about the same results that we would have had from any of our regular wet dressings" Since last December has never ordered any "and do not intend to do so"

*University of Notre Dame,* Athletic Department—The University reports that G-S-I was used for a short time by the Director of Athletics who when he 'learned that it was a hindrance to healing," ceased using it

*Allis-Chalmers Manufacturing Company* Milwaukee—The chief surgeon writes that he has never ordered any of it nor "authorized its use" in the plant hospital He adds that 'every method of pressure" has been brought to bear on the industrial men of Milwaukee in an effort to introduce G-S-I and secure endorsements for the nostrum

*Gimbel Bros Department Store,* Milwaukee—Reports that the preparation was used for a time but, when found to offer no advantages, was discontinued

*Burroughs Adding Machine Company* Detroit—Used a sample experimentally and discontinued its use

*Armstrong Cork Co Linoleum Division,* Lancaster, Pa—Ordered a pint bottle, used about half an ounce, dis continued its use

*American Cast Iron Pipe Co,* Birmingham, Ala—Used for a time but has discontinued

*American Wire Fabrics Co,* Blue Island, Ill—Ordered a quart but has discontinued its use

*Fairbanks-Morse Co,* Chicago—Has never used it Threw away samples that were received

*Milwaukee Fire Department*—Has never heard of Gly-So Iodonate or the concern that puts it out

*Acme Brick Co* Millsap, Texas—Reports that a sample bottle was sent and the foreman applied the material to the cut finger of one of the men Gly-So-Iodonate is not used in the first aid kit

*Chicago and Northwestern Railway,* Chicago—Did use for a time but has discontinued its use

*American Sheet and Tin Plate Company* Pittsburgh—The chief surgeon writes that he knows nothing of Gly-So-Iodonate being used and that it is not used by the organization

*Federal Mutual Liability Insurance Co,* Los Angeles, Cal—Tried one free sample bottle and have never used any since

*General Motors Truck Company* Pontiac Mich—Gave it a trial but not being impressed with its value did not re-order

*American Rubber Co* Cambridge Mass—One bottle was ordered for a trial but as 'nothing of special value" was found the order was not repeated

*Milwaukee Electric Railway and Light Co*—Used free samples for a time but will 'certainly make no further use of this product at any time"

*Acme Smelting & Refining Co,* Chihuahua, Mexico—Used a small amount but the physician 'has reported that he has not obtained results"

*Cudahy Packing Co* Kansas City, Kansas—Have never ordered Gly So-Iodonate and do not intend to' as the can see no benefit to be derived from the use of the preparation

*Beaver Manufacturing Co,* Milwaukee Wis—Abandoned the use of the product because men objected to it

*Bucyrus Co* South Milwaukee—The chief surgeon reports We have never used Gly-So-Iodonate at any time'

It seems evident that the basis for at least some of the references published by the exploiters of Gly-So-Iodonate rests on as flimsy a foundation as the alleged formula for the stuff and the educational claims of Charles E Hutchings

# Correspondence

## IRRADIATION AS A POSSIBLE TREATMENT OF THE DENTAL ROOT "ABSCESS"

*To the Editor:* —A recent observation of a possible large dental root "abscess" of the lower jaw has revealed a hitherto unobserved and apparent healing effect of roentgen-ray treatment. A white adult, aged about 40, had observed pain in the teeth in the left lower jaw—incisor, canine and bicuspid. Then the teeth became a little loose, and a swelling appeared below the teeth on the anterior surface of the lower jaw. A roentgenogram showed bone absorption about the roots of these three teeth, much larger than the usual dental root abscess, large enough to be explained by the coalescing of three dental root abscesses.

In view of the effect of roentgen rays on the giant-cell tumor it occurred to me to try them here to see their effect on this type of granulation tissue. Whatever the primary condition was, the pain has disappeared, the teeth have become solid, and the light area has been replaced by what appears to be new bone formation, and there now remains but a small light area about the root of the canine tooth. In addition to the changes in the roentgenogram, the visible and palpable tumor below the involved teeth on the anterior surface of the body of the jaw has disappeared.

I am anxious to publish this observation, because at present the prevailing treatment of a dental root abscess is extraction of the tooth, and many teeth are being lost, because we do not know how to prevent these abscesses. Unless there is a serious heart lesion or an acute polyarthritis, a delay of a few days or weeks could do no harm, during which time the roentgen-ray treatment could be given. The result of the treatment should be checked by both roentgen-ray dental films and plates.

There is also another reason for this preliminary roentgen-ray treatment, especially when the shadow of bone absorption is larger than a five-cent piece. I have described this in the *New York State Journal of Medicine* (24: 379 [March 21] 1924). In brief, the results of the studies reported there show that there is no way of distinguishing, in the roentgenogram or any other method of examination, the various pathologic processes that may produce destruction of bone in the center of the lower jaw, all of which in their beginning are not unlike the dental root abscess. These are the dentigerous cyst (a cyst lined by adamantine epithelium), the adamantine carcinoma, the giant-cell tumor, the fibroma, the sarcoma, and a possible carcinoma spinocellulare. The latter originates in the epidermis of the gum and extends down along the side of the tooth, or through the sinus of the extracted tooth, and produces an area of bone destruction in the center of the body of the jaw.

It would appear theoretically safer in all these cases when the shadow is larger than a five-cent piece, to give the area a course of roentgen-ray treatment. If it grows larger or does not entirely disappear, then it would be wiser to operate. But the usual method—extraction of the teeth—should not be followed. Under local anesthesia, the bone shell of the involved area should be exposed by dividing the mucous membrane and exposing the bone by pushing back a muco-periosteal flap. This piece of bone should be removed and the cavity and its contents inspected. One always should be prepared with the cautery. The electric cautery with a small knife or bur is of sufficient strength. The plumber's small soldering irons are cheaper and more accessible to all. If one is unable to make the diagnosis between the different pathologic processes, the cavity should be thoroughly cauterized with the red hot cautery, the teeth in the involved area extracted, and the root cavities again cauterized. Fortunately, I have had the opportunity to employ this in all the pathologic processes except the sarcoma, with apparent success. In the benign lesion, such as the dental root abscess or cyst and the dentigerous cyst, it is unnecessary, but has not interfered with healing. In the giant cell tumor, it is essential to prevent recurrence. In sarcoma and carcinoma spinocellulare, the life of the patient undoubtedly depends on this immediate and thorough destruction of the involved area with heat.

I feel that it is important to emphasize this second part, because the majority of persons with lesions within the lower jaw are coming under observation when the palpable swelling is no larger than a five or twenty-five cent piece. The area of destruction is clearly pictured in the roentgenogram. Unfortunately, in the majority of instances the method of attack has been insufficient for the malignant lesion—either extraction of teeth only, or curetting without thermal or chemical cauterization.

It should not take long to establish the effect of roentgen-ray treatment of dental root abscesses, or the efficiency of the electric cautery or cautery with the soldering iron in the operative treatment of those central lesions of the lower jaw which do not react to preoperative irradiation.

If one can recognize the dentigerous cyst when exposed, the cautery need not be employed and the teeth can be saved. I would appreciate reports of similar observations.

JOSEPH COLT BLOODGOOD, M.D., Baltimore.

## MUSCLE MURMUR

*To the Editor:* —Muscle murmurs seem to present to the student some little difficulty in differentiation. They are confused with fine rales, not infrequently, while one student stated that what he heard as muscle murmur he had been accustomed to regard as "cog-wheel" respiration. Other students have told me that the murmur often so dominated the field that they were unable to determine the character of the sounds that they were hearing. This whole confused subject may be cleared up by the simple means of instructing the student to auscultate over other than chest muscles. Listening over the deltoid or the biceps will give a pure muscle murmur, when the arm is flexed against resistance, or, in the case of the deltoid, raised, against resistance.

ETHAN A. GRAY, M.D., Chicago.

## REGISTRY OF BONE SARCOMA

*To the Editor:* —As chairman of the Committee of the American College of Surgeons of the Registry of Bone Sarcoma, I am anxious to have every active practitioner of medicine in the United States know of the existence of the registry and the use it may be to him and the service he may be to it.

It is hoped that every case of bone sarcoma that occurs in the United States or Canada will be registered with the committee as soon as the tentative diagnosis is made. Registration consists in sending an outline of the history, roentgen ray prints and, if tissue has been removed, some of the tissue or slides made therefrom. It is the duty of the committee to collect and study the cases reported until such time as it can render a satisfactory report of efficient methods of diagnosis and treatment. On receipt of a case for registration, the registrar sends the data received to a number of consulting pathologists, who give their diagnoses and prognosis. In due time these diagnoses are sent to the person registering the case. If he is in a hurry, a telegraphic report will be sent. Any member of the committee is also ready to give advice as to treatment, if he is asked to do so.

We desire registration of every possible case, even if the record, roentgenograms or slides are unsatisfactory No case that is treated under this diagnosis should be omitted, for we can never tell what little fact may be of importance in solving our problem

The other members of the committee are Dr Joseph Colt Bloodgood, Baltimore, and Dr James Ewing, New York City

E A CODMAN, M D, Registrar,
227 Beacon Street, Boston

## ELECTRIC FAN IN SEASONAL TREATMENT OF POLLEN HAY-FEVER AND ASTHMA

*To the Editor* —Pollen filters, such as nasal filters, and wet cheese-cloth tacked on windows, are notoriously unsatisfactory An electric fan, placed and kept running a few feet inside the open sleeping room window from which ventilation is derived, will blow practically all pollen granules back out the window The doors and other windows of the room should, of course, be kept closed

This little device, in my hands, has proved of immense assistance in providing comfort to these sufferers during the pollination season, especially at night in the residence sections where pollen is comparatively abundant

I S KAHN, M D, San Antonio, Texas

## ANOTHER DEATH FROM "NUGA-TONE"

*To the Editor* —Noting the article on "Nuga-Tone" in the Propaganda department of THE JOURNAL, May 17, I wish to report the death of a child, 3 years old, with typical symptoms of strychnin poisoning from eating an unknown number of "Nuga-Tone" tablets

FRANKLIN CAUTHORN, M D, Superior, Ariz

# *Queries and Minor Notes*

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address but these will be omitted, on request

## NONSPECIFIC PROTEIN THERAPY

*To the Editor* —1 What is the supposed mechanism of action of so-called nonspecific protein therapy? 2 Has peptone, collargol or typhoid vaccine or have autoblood serum injections been reported to have been used successfully in the treatment of chronic urticaria? If so kindly state doses you would recommend The case in mind has resisted the ordinary measures and gives a positive dermal reaction to all protein mixtures

J E T

ANSWER —1 The mechanism involved in nonspecific therapy concerns cell stimulation Weichardt assumes that this involves all cells (omnicellular plasma activation), other researches indicate that certain cell groups, as for instance the reticulo endothelium, may be more particularly concerned On stimulation, the cell becomes more permeable Antibodies, enzymes, fibrinogen, etc, leave the cell Under certain conditions (typhoid fever), a rapid destruction of organisms may take place to an extent that may overwhelm the patient by the sudden liberation of toxic bacterial products This first phase of the reaction corresponds in many ways to a parasympathetic effect Later a second phase follows during which the patient is improved (euphoria) This is associated with a sympathetic tonia, the cells are evidently less permeable and stimuli that under ordinary conditions might cause irritation are no longer effective This stage may persist for a considerable period of time, and is clinically apparent in the improvement of the patient

2 Few cases are reported in the literature in which chronic urticaria has been so treated although many related conditions of evident or probable sensitization have been improved (hay fever, asthma, migraine, epilepsy, intermittent hydrarthrosis) We would suggest great caution in the employment of the more active substances such as typhoid vaccine peptone and collargol, indeed, if we may judge by analogy, very small doses of relatively mild reactivity (tuberculin, casein, turpentine) are much more suitable This has been the experience with chronic arthritis Dosage must be adjusted to suit the patient, care being taken to keep the dose at all times just below that which causes a focal reaction at the site of the lesion

## "PERITONITIS WITH UNRUPTURED APPENDIX"

*To the Editor* —In Queries and Minor Notes (THE JOURNAL, May 17, p 1632) a correspondent asks about the possibility of an unruptured appendix causing acute peritonitis, and no one can doubt the correctness of your reply Generally speaking, it is possible for peritonitis to develop from appendicitis without rupture of the appendix "

Some however might raise the point that in such a case it would be justifiable or possibly imperative, even in the presence of acute peritonitis, to explore other regions of the abdomen A careful history and physical examination will largely rule out pelvic kidney and gallbladder disease, but this does not hold true, at least not invariably in the case of ulcer

After being jolted by one or two mistakes in misdiagnosing ruptured appendix operating and finding the appendix unruptured, and discovering the true cause of the peritonitis to be perforated ulcer, I adopted the plan of suspecting all ruptured appendixes of being in reality perforated ulcers If the patient was 35 or 40 years old or more if a history of ulcer could be obtained or a history of sour belch or heartburn or the attack was ushered in by pain unusually severe or protracted the operative incision was made a little high Then if the appendix was found unruptured the pylorus was explored In no instance, since the adoption of this rule has exploration in the case of unruptured appendix with acute peritonitis failed to disclose a perforated ulcer A larger experience would, of course, have shown one or more cases similar to M O B s, with suppurative peritonitis due to an inflamed but unruptured appendix

If a man suspects many cases with marked rigidity and other symptoms of peritoneal involvement of being ulcer and not appendicitis he will be wrong more frequently than right because ruptured appendix is much more common than perforated ulcer but he will have done no harm by making his incision a little high because he can still drain the pelvis through a stab wound above the bladder and he will rarely fail to find the cause of the peritonitis near the pylorus when he finds the appendix unruptured provided of course that a careful physical examination and a painstakingly elicited history have eliminated other causes

J P DOUGHERTY, M D Sioux City, Iowa

## PRECIPITATION TESTS FOR SYPHILIS

*To the Editor* —In the various modifications of the precipitation test for syphilis flocculation and then precipitation occur, in the order named What causes the formation of the floccules, or what is the composition of the resulting precipitate? In other words, kindly explain what actually takes place in the reaction when a positive serum is used As the reaction depends on the presence of syphilitic serum antigen and physiologic sodium chlorid solution why is the serum inactivated to destroy complement when a typical reaction will occur in a positive serum not previously inactivated? In the serum of a known syphilitic patient the reaction will be positive whether the antigen is cholesterinized or not Why is cholesterinized antigen used?

T A FLOOD, M D, Salt Lake City Utah

ANSWER —According to Taoka (*Arch Exper Med* Tokyo, 1922), the precipitate in these reactions contains both the so-called antigen and the reacting substance, or reagin, or antibody Nothing much is known concerning the chemical nature of the latter substance except that it probably is not an albumin It is quite generally agreed that it is not necessary to inactivate serums for precipitation tests The cholesterinized antigen is more sensitive and seems to be of value in testing serums of patients under treatment, because less actively positive serums may react with the cholesterinized antigen but not with the unmixed antigenic alcoholic extract

## CHLOROFORM BURN OF THE CORNEA

*To the Editor* —A woman with Bell's palsy was being anesthetized with chloroform As she could not close her left eye owing to the paralysis some of the vapor touched the conjunctiva Later she said that a painful corneal ulcer was caused by the chloroform burn

Now then although chloroform vapor may cause a temporary conjunctivitis I do not think it would cause corneal ulceration unless there is a tendency to ulceration present due to defective nutrition caused by the paralysis Please give me your opinion in the matter

MAX ISEBERG M D New York

ANSWER —Chloroform will cause inflammation of the conjunctiva and also of the cornea Traumatic keratitis may result in corneal ulcer, especially if not promptly and efficiently cared for In most cases of Bell's palsy with imperfect closure of the lids there is considerable irritation of the conjunctiva with changes in the corneal epithelium A slight injury to the cornea in such a case is very apt to result in ulceration

# Medical Education, Registration and Hospital Service

## COMING EXAMINATIONS

ALABAMA Montgomery, July 8 Chairman, Dr S W Welch, Montgomery

CALIFORNIA San Francisco, July 7 10 Sec, Dr Charles B Pinkham, 908 Forum Bldg, Sacramento

COLORADO Denver, July 1 Sec, Dr David A Strickler, 612 Empire Bldg, Denver

CONNECTICUT Hartford, July 8 9 Sec, Regular Board, Dr Robert L Rowley, 79 Elm St, Hartford

CONNECTICUT New Haven, July 8 Sec, Homeopathic Board Dr Edwin C N Hill, 82 Grand Ave, New Haven, Sec, Eclectic Board, Dr James F Hair, 730 State St, New Haven

DELAWARE Wilmington June 17 Sec, Medical Council, Dr H W Briggs, 1026 Jackson St, Wilmington

DISTRICT OF COLUMBIA Washington July 8 Sec, Dr Edgar P Copeland Apt 104, Stoneleigh Court, Washington

FLORIDA Ocala, June 16 17 Sec, Dr W M Rowlett, Citizens Bank Building, Tampa

GEORGIA Atlanta and Augusta, June 4 6 Sec, Dr C F Nolan, Marietta

ILLINOIS Chicago, June 24 27 Supt of Regis Mr V C Michels, Springfield

INDIANA Indianapolis, July 8 10 Sec, Dr William F Gott, No 333 State House Indianapolis

KANSAS Topeka, June 17 Sec, Dr A S Ross, Sabetha

KENTUCKY Louisville, June 9 Sec, Dr A F McCormack, 532 W Main Street, Louisville

LOUISIANA New Orleans June 12 14 Sec, Dr Roy B Harrison, 1507 Hibernia Bank Bldg, New Orleans

MAINE Augusta, July 15 16 Sec, Dr Adam P Leighton, Jr, 192 State St, Portland

MARYLAND Baltimore, June 17 20 Sec Reg Bd, Dr Henry M Fitzhugh 1211 Cathedral St, Baltimore, Sec, Homeo Bd, Dr E H Wilson, Chesapeake City

MICHIGAN Ann Arbor, June 10 12 Detroit, June 16 18 Sec, Dr B D Harison, 707 Stroh Bldg Detroit

MISSISSIPPI Jackson, June 17 18 Sec, Dr W S Leathers, Jackson

MISSOURI St Louis, June 16 19 Sec, Dr Cortez F Enloe, Jefferson City

NATIONAL BOARD OF MEDICAL EXAMINERS Written examinations in Class A Medical Schools Parts I and II, June 19 21 Sec, Dr John S Redman, 1310 Medical Arts Bldg, Philadelphia

NEBRASKA Omaha, June 9 11 Supt, Dr J D Case, Terminal Building Lincoln

NEW JERSEY Trenton, June 17 18 Sec, Dr Alexander MacAlister, State House, Trenton

NEW MEXICO Albuquerque, July 14 Sec, Dr W T Joyner Roswell

NORTH CAROLINA Raleigh, June 23 Sec Dr Kemp P B Bonner, Raleigh

NORTH DAKOTA Grand Forks July 1 Sec, Dr G M Williamson Grand Forks

OKLAHOMA Oklahoma City, July 8 9 Sec, Dr J M Byrum, Shawnee

OREGON Portland, July 1 3 Sec, Dr Urling C Coe, Stevens Bldg, Portland

PENNSYLVANIA Philadelphia and Pittsburgh, July 8 12 Sec, Dr George Becht, Harrisburg

RHODE ISLAND Providence, July 4 5 Sec, Dr B U Richards, State House, Providence

SOUTH CAROLINA Columbia, June 24 Sec, Dr A Earle Boozer, 505 Saluda Ave, Columbia

SOUTH DAKOTA Sioux Falls, July 15 Director, Division of Medical Licensure, Dr H R Kenastin Bonesteel

TENNESSEE Memphis, June 13 14 Sec, Dr A B DeLoach, 434 Madison Ave Bldg, Memphis

TEXAS Austin, June 17 19 Sec, Dr F J Crowe 918 19 Mercantile Bank Building, Dallas

VERMONT Burlington, June 25 27 Sec, Dr W Scott Nay, Underhill

VIRGINIA Richmond June 17 20 Sec, Dr J W Preston, 720 Anchor Building, Roanoke

WASHINGTON Olympia July 8 Sec Mr Wm Melville, Olympia

WISCONSIN Milwaukee, June 24 26 Sec, Dr J M Dodd, 220 E Second Street Ashland

WYOMING Casper, June, 9 11 Sec, Dr J D Shingle, Citizens Bank Bldg, Cheyenne

### Wisconsin January Examination

Dr J M Dodd, secretary, Wisconsin State Board of Medical Examiners, reports the written and practical examination held at Madison, Jan 8-10, 1924 The examination covered 25 subjects and included 100 questions An average of 75 per cent was required to pass Twenty-eight candidates, including three osteopaths, were examined, all of whom passed Twenty-three candidates were licensed by reciprocity and nine by endorsement of credentials The following colleges were represented

| PASSED | Year Grad | Per Cent |
|---|---|---|
| College of Physicians and Surgeons, Chicago | (1897) | 86 |
| Rush Medical College (1923, 5)* 87, 89, 90, 92, 92, | (1924)* | 90 |
| Harvard University | (1922) | 87 |
| University of Minnesota | (1923)† 86, 89 | |
| University of Pennsylvania (1917) 90, | (1922) | 92 |
| Washington University | (1923, 2) 89, 89 | |
| University of Virginia | (1920) | 89 |
| Marquette University (1923)* 88, (1923, 2) 86, 88, | (1924)* | 89 |
| University of Innsbruck, Austria | (1909)‡ | 85 |
| Bohemian Univ of Prague, Czechoslovakia (1918)‡ 90, | (1923)‡ | 88 |
| University of Munich, Germany (1906) 86, | (1919)‡ | 97 |
| University of Budapest, Hungary | (1911)‡ | 87 |
| Osteopaths | 84, 86, 95§ | |

| LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|
| Bennett Medical College | (1914) | Illinois |
| College of Physicians and Surgeons, Chicago | (1903) | Minnesota |
| Loyola University | (1921) | Illinois |
| Northwestern University (1905), (1910), (1922), | (1923) | Illinois |
| Rush Medical College | (1923 2) | Illinois |
| University of Illinois | (1920) | Illinois |
| State University of Iowa College of Medicine | (1916) | Iowa |
| Johns Hopkins University | (1920) | Maryland |
| Michigan College of Medicine and Surgery | (1906) | Michigan |
| University of Michigan Medical School (1917) | (1922) | Michigan |
| Harvard University | (1922) | Michigan |
| Washington University, St Louis | (1915) | Missouri |
| Creighton Medical College | (1920) | Nebraska |
| Western Pennsylvania Medical College | (1898) | Penna |
| Meharry Med Coll, Nashville (1907) Tennessee, | (1916) | Louisiana |
| University of Padua, Italy | (1917) | Illinois |
| University of Bukharest, Roumania | (1901) | Illinois |

| ENDORSEMENT OF CREDENTIALS | Year Grad | Endorsement with |
|---|---|---|
| Bennett Medical College | (1912) | U S Army |
| Indiana University | (1908) | U S Army |
| Central College of Phys and Surgs, Indianapolis | (1902) | U S Army |
| St Louis University | (1909) | U S Army |
| John A Creighton Medical College (1911), | (1915) | U S Army |
| University of Oklahoma | (1916) | U S Army |
| University of Pennsylvania | (1917) | U S Army |
| Medical College of Virginia | (1901) | U S Army |

* These candidates have completed their medical course and will receive their M D degrees on completion of a year's internship in a hospital

† These candidates have completed their medical course and received their M B degrees They will receive their M.D degrees on completion of a year's internship in a hospital

‡ Graduation not verified

§ Also licensed to practice surgery

# Book Notices

THE 1923 BOWMAN LECTURE Concerning Certain Ocular Aspects of Pituitary Body Disorders Mainly Exclusive of the Usual Central and Peripheral Hemianopic Field Defects By G E de Schweinitz From the Transactions of the Ophthalmological Society Volume XLIII, 1923 London Adlard & Son & West

The 1922 and 1923 Bowman Lectures have set so high a standard that coming generations will have to exert themselves not to fall below The American ophthalmologist is particularly interested in the latter lecture, not only because of the interest that disorders of the pituitary body arouse, but even more for reason of the honor extended to American ophthalmology by the selection of Dr George E de Schweinitz to deliver the Bowman Lecture, the highest honor in the ophthalmic world The lecture itself must needs be read, for a limited review cannot even touch on the salient features The written matter is full of charm Apart from the purely literary quality of the pamphlet must be considered the scientific value New light is thrown on the ophthalmic manifestations that may result from disorders of the pituitary body, partially from the anatomic studies carried out with J Parsons Schaeffer, partially from the purely ophthalmic studies carried out by the author with his associates and assistants, and partially from experimental work on animals There are many colored anatomic drawings of unusual excellence, and even more visual field charts, filled in so that they may be comprehended at a glance A thorough study of this lecture is recommended to every physician whose work bears even a remote relation to pituitary body disorders, in other words, to all graduate physicians

DIE EXTRAPYRAMIDALEN ERKRANKUNGEN Mit besonderer Berucksichtigung der pathologischen Anatomie und Histologie und der Pathophysiologie der Bewegungsstörungen Von Privatdozent Dr A Jakob Leiter des anatomischen Laboratoriums der Staatskrankenanstalt und Psychiatr Universitatsklinik Hamburg Friedrichsberg Paper Price, $7 20 Pp. 419, with 167 illustrations Berlin Julius Springer, 1923

Since Nissl and Alzheimer passed away, Jakob of Hamburg and Spielmeyer of Munich have been the leading neuropathologists in Germany The present book, the thirty seventh of the excellent series of neuropsychiatric monographs edited by Foerster and Wilmanns, is dedicated to the memory of Alzheimer, once the teacher of Jakob Those interested in neuropathology will here find a difficult subject treated by a master The bulk of the book is taken up by

detailed histologic description and analysis of the author's own material The abundant illustrations, though not colored are nevertheless excellent The basal ganglions and their diseases, chorea, parkinsonism, Wilson's disease and athetosis form the main subject

OBSTETRICAL NURSING A Manual For Nurses and Students and Practitioners of Medicine By Charles Sumner Bacon Ph B M D, Professor of Obstetrics in the University of Illinois Second edition Cloth Price $2 75 Pp 340 with 125 illustrations Philadelphia Lea & Febiger, 1924

The author has set for himself an interesting problem His preface indicates that he wishes his textbook to serve the nurses of low standard schools and at the same time supply all the needs of class A hospitals, and, further, to present this material in such a manner that medical undergraduates and practitioners will be concerned to learn what duties their nurses should and do perform To accomplish such a feat, an author must take obstetric science in its highest form, and simplify, condense and define its elaborate technic so lucidly and directly as to appeal immediately to the untrained mind He must at the same time attract and hold the older student who has been drilled and developed in the intricacies of modern biology The principles and practice of the ancient art must be distilled and sublimed until only the essential values are prominent When a book thus composed reaches the student, it is not surprising if it passes into the comprehension of high and low, and if each student receives a full measure of instruction with only a mysterious sense of having traveled pleasantly

CHILDREN S DISEASES FOR NURSES By William Palmer Lucas A B M D LL D Professor of Pediatrics University of California Medical School Cloth Price $3 50 Pp 574 with 155 illustrations New York The Macmillan Company 1923

This is a practical work written in two parts, the first devoted to the period of infancy and the second to childhood The first part embraces a practical introduction of the differences between the child and the adult, the prenatal and postpartum care of the mother, the first care and necessary early observations of the infant, the hygiene of infancy, breast and artificial feeding, the common disturbances of infancy, and the chronic conditions dependent on congenital weakness and nutritional disorders The second part is devoted to the growth and development of the child, dealing with its needs in health and sickness The book is well written, in a comprehensive style

PEDIATRICS By Various Authors Edited by Isaac A Abt, Professor of Diseases of Children Northwestern University Medical School Volume 3 Cloth Price $10 Pp 1051 with 223 illustrations Philadelphia W B Saunders Company 1924

The first two volumes of this monumental contribution to American medical science offered a foretaste of the comprehensiveness and accuracy of the entire work The third volume, now available, may be said certainly to equal the first and second volumes and perhaps in the carefulness of its editing and the comprehensive character of the contributions, even to surpass them The volume begins with a statement as to the "new" system of nutrition by its originator, Dr Pirquet Regardless of the ultimate place to be occupied by this system in the history of infant feeding, it is well to have a brief authoritative statement directly from the source The second article is by the lamented May Michael, whose untimely death ended a great service to scientific pediatrics Her chapter on the physiology of the gastro-intestinal tract represents a concise briefing of a vast amount of pediatric literature The bacteriology of the intestinal tract is discussed by Dr Arthur I Kendall, and the diseases of the mouth and tongue by Dr Thomas B Cooley Dr James S Stone of Boston contributes a notable chapter on harelip and cleft palate and Dr B G DeVries on orthodontia This series will give the pediatrician the most recent views regarding the prevention of mouth defects which have come to be recognized as of great importance in the control of many disturbances affecting the child The cervical lymph glands are discussed by Dr Daniel N Eisendrath the salivary glands by Dr Henry Dietrich and the diseases of the nose and throat by Dr Harold M Hays Last comes one of the most notable contributions to the series, namely, the section on nutritional disturbances of infancy, to which Drs Abt, Grulee and Marriott contribute three important chapters Another section of the present volume is an extensive consideration of the surgery of the gastro-intestinal tract in children, by Dr Harry M Richter This section is almost of book proportions, including approximately a hundred pages of exceedingly practical material The remainder of the volume comprises articles by Dr Langley Porter on diseases of the liver and pancreas, by Dr L W Dean on diseases of the nose, by Dr A H Byfield on infections of the upper respiratory tract, by William Scheppegrell on diseases of the larynx, an unusual chapter by Dr Stanton A Friedberg on the removal of foreign bodies from the lungs and gastro-intestinal tract, written just before his death Finally, the respiratory diseases and pneumonia are considered by Drs John A Foote, Robert A Cooke and Edward A Morgan The printing composition index and illustrations are well up to the high standard of the previous volumes

LA BRONCHO PNEUMONIE DU NOURRISSON Etude physio-pathologique et therapeutique Par le Docteur Jean Meyer, interne des hopitaux Paper Pp 189 Paris Amedee Legrand 1923

This is a long monograph on bronchopneumonia in the infant The author has gone rather extensively into the question of loss of water through the skin and takes up the clinical question from the standpoint of two syndromes, one of asphyxia and the other of a septic-toxemic state The monograph ends with suggestions on treatment.

## *Medicolegal*

### Breach of Contract by Plastic Surgeon

*(Bailey v Harmon (Colo ) 222 Pac R 393)*

The Supreme Court of Colorado says that it was alleged in the plaintiff s complaint that she employed defendant Bailey a plastic and cosmetic surgeon, to straighten and raise the point of her nose, enlarge her nostrils, fill out hollows, correct, eradicate and remove all defects and irregularities in her nose raise her left eyebrow, remove, eradicate and correct all scars blemishes, irregularities defects, lines, circles, marks and wrinkles in her face, neck and hands, to give her a general beauty treatment," correcting all disfiguring distortions of all kinds and to make of her "a model of harmonious perfection ' All that, it was alleged, the defendant promised to do 'without pain, inflammation, soreness or inconvenience to the plaintiff, and without leaving any scars resulting from the operation,' for which the plaintiff paid him $190 but that the defendant breached the contract to the plaintiff s injury, for which she asked compensating damages A jury rendered a verdict in her favor for $600, and judgment for that amount is affirmed

The trial court was clearly right in its ruling to the effect that the action was solely one for breach of a special contract 'guaranteeing' successful treatment, and not for malpractice or negligence It was true that in the summons and in the complaint there was a statement pointing to the defendant s negligence and unskilfulness and lack of knowledge of his alleged profession but in view of the averment in the complaint of the special contract and its breach these other statements might be and should be, and were by the trial court disregarded as surplusage or treated as having been inserted merely as throwing some light on the defendant s failure to do the things he agreed to do and in the way promised

Disclaiming special knowledge of the plastic and cosmetic art and with no opportunity to inspect the person on whose body were performed the various operations required and performed by the defendant it would seem nevertheless, safe to say that the beauty doctor took on himself a formidable job For a reviewing court to set aside the verdict of the jury whose members as well as the trial judge who approved the verdict saw the witnesses on the stand, including the

plaintiff, where the verdict necessarily depends in a measure on an inspection of the disfigured party, would be unwarranted In the state of the imperfect record in this case the supreme court might safely assume that the jury not only did, but was so instructed by the court to, use a magnifying glass in inspecting the parts of the plaintiff's anatomy on which the doctor practiced, or failed to practice, his skill with a view to removing and eradicating the blemishes and wrinkles and scars, to filling the hollows, lowering the projections, and raising the eyebrows, in short, to determine whether or not the defendant, by his operation on the plaintiff, made of her, as promised, "a model of harmonious perfection," and to compare her as thus seen with her photograph taken before treatment, so that they would thereby be the better qualified to determine on the attending success thereof The supreme court, with its limited knowledge and facilities, and lack of opportunity for inspection and observation that the jury had, declines to supervise or set aside the findings of the jury, which the trial judge approved

### Statements Not Privileged—As to Staff Physicians

*(Garrett v City of Butte (Mont), 221 Pac R 537)*

The Supreme Court of Montana, in reversing a judgment for damages that was rendered in favor of the plaintiff for injuries alleged to have been sustained by her falling on an accumulation of ice and snow on the sidewalk at a certain place, holds that it was error to exclude as a privileged communication the testimony of a staff physician at the hospital to which the plaintiff was taken, it being desired to show by him that she told him that the accident occurred at a different place from that alleged by her

The court says that to invoke the rule of exclusion under the Montana statute, two things are required to appear (1) That the relation of physician and patient existed at the time the statements were made, (2) that the information given the physician was "necessary to enable him to prescribe or act for the patient" The statute is unambiguous, and plainly applies only to information, relating to the particular injury or disease, required properly to "prescribe for the patient" The provisions of the statute alone settle the question In view of the language employed, it would not seem that any lawyer would be heard seriously to argue that statements made by a patient to his physician concerning his place of residence, his place of birth, the names of his parents, whether he is married or single, the place where injured, the means of his conveyance to the hospital for treatment, or the like, constituted information necessary to enable the physician to prescribe for the patient It is manifest that, were such the rule, commonplace conversations had by the patient with his physician would come under the rule of exclusion

This court recognizes the general rule that the incompetence of a physician to testify concerning information acquired while attending a person in a professional capacity extends to staff physicians connected with a hospital, but the information obtained in order to place such evidence under the ban as respects the physician or an attendant physician must be such as is necessary to prescribe for the patient

### Roentgenograms—May Be Taken into Jury Room

*(Robinson v Payne (N J) 122 Atl R 882)*

The Court of Errors and Appeals of New Jersey, in affirming a judgment for the plaintiff for damages for personal injuries, says that the defendant contended that there was error in admitting in evidence certain roentgenographic plates and films, and in allowing them to be taken into the jury room But the court holds that if the correctness of roentgenographic photographs is established by the testimony of the person making them, or if they are identified by the surgeon under whose general direction and for whose use they were made, and by whom they were used in his diagnosis of the bodily injury, they are admissible in evidence and may properly be taken into the jury room Tested by this rule, the plates and films in question were properly admitted in evidence and were properly allowed to be taken into the jury room

# *Society Proceedings*

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Chicago, June 9 13 Dr Olin West, 535 North Dearborn Street, Chicago, Secretary

American Association of Industrial Physicians and Surgeons, Chicago, June 9 10 Dr A G Cranch, National Carbon Co, Cleveland, Secy
American Proctologic Society, New York, June 23 25 Dr Joseph F Montague, 510 Park Avenue, New York, Secretary
American Radium Society, Chicago June 9 10 Dr Edwin C Ernst Humboldt Bldg, St Louis, Secretary
American Society of Tropical Medicine, Chicago, June 9 10 Dr B H Kanson, Bureau of Animal Industry, Washington, D C, Secretary
Associated Anesthetists of the United States and Canada, Chicago, June 9 10 Dr F H McMechan Avon Lake, Ohio, Secretary
Maine Medical Association, Portland, June 25 27 Dr B L Bryant, 265 Hammond Street, Bangor, Secretary
Medical Library Association Chicago, June 9 10 Dr John Ruhrah 11 East Chase St, Baltimore, Secretary
Medical Women's National Association, Chicago, June 9 10 Dr J W Fisher, Middlesex Hospital, Middletown, Conn, Secretary
New Hampshire Medical Society, Manchester, June 24 25 Dr D E Sullivan, 7 N State Street, Concord, Secretary
Pacific Northwest Medical Association, Vancouver, B C, June 26 28 Dr F Epplen, 422 Paulsen Building, Spokane, Wash, Secretary
Utah State Medical Association, Logan, June 19 21 Dr William L. Rich, Boston Building, Salt Lake City, Secretary
Wyoming State Medical Society, Cody, June 17 19 Dr Earl Whedon, Sheridan, Secretary

## ASSOCIATION OF AMERICAN PHYSICIANS

*Thirty Ninth Annual Meeting, held in Atlantic City, N J, May 6 and 7, 1924*

*(Concluded from page 1810)*

### Clinical Studies in Addison's Disease

DR L G ROWNTREE, Rochester, Minn In the last four years we have had twenty-one cases of Addison's disease Four patients received no treatment and died within a month, five received some form of organotherapy, twelve received full treatment and died despite the treatment, five showed very good results Two recent cases cannot be fully reported on We do not feel that influenza can be excluded from causal relationship There was tuberculosis in eight cases Syphilis, malaria, typhoid fever, trauma and pregnancy, also played a part Renal function showed very slow excretion of water The blood plasma fell within normal limits The blood does not flow readily Lymphocytosis was a common occurrence Liver function seemed to be normal The basal metabolism was studied in thirteen cases, and eight were within normal limits, four were below normal The breathing was very slow, with heavy sighing The patient complained of cramps after taking suprarenal preparations, so the most recent method is to give preparations of the suprarenal cortex, which does not cause cramps to any extent Pigmentation is usually increased in patients who do not improve under treatment The treatment can combat functional insufficiency only of the suprarenal glands, but the treatment probably exerts no influence on the fundamental underlying factors, but results warrant giving the method a fair trial The results of treatment depend on the patient's tolerance In some instances an actual intolerance exists In the shocklike crises we have given shock treatment first Some patients can take 5 minims, some can take 20, the hypodermic administration causes less cramps than the oral method

#### DISCUSSION

DR N M KEITH, Rochester, Minn In wound shock one of the striking features noted was that there was a slatelike coloration We have been able to demonstrate no diminution in the circulating blood The blood sugar is slightly increased In animals with the suprarenals removed the blood sugar goes down This explains the low blood sugar in Addison's disease

DR ALEXANDER LAMBERT, New York I saw a patient in a collapse of this kind He was practically pulseless The edema of the legs below the knees was extraordinary The necropsy disclosed two hemorrhages, one in each suprarenal gland which had entirely destroyed it This lesion occurred after four days of influenza The muscles of the legs had a

most peculiar feeling, soft, like putty One could push the fingers right into the muscle

### The Progress of the Food Through the Bowel

DR WALTER C ALVAREZ, San Francisco Most of the symptoms of indigestion are due to disturbance of the progress of the food through the bowel The rhythmic contractions of the bowel mix the food and churn it while every now and then there is a peristaltic rush, usually starting with a large gastric contraction but sometimes without Most waves start with the esophagus Sometimes contractions occur which act as inhibitions The food is thrown back and forth, then a rush occurs This is stopped by contractions that occur in the colon, and this prevents diarrhea Sometimes the bowel makes an effort to stop the rush but does not succeed, and the bolus travels on Sometimes contraction in the ileum will produce a ripple above and a rush downward Sometimes there is a reverse peristalsis with vomiting reflex Liquid may seep through the bowel without peristalsis, thus liquid food may pass where solids will not In cases in which there is inflammation or any interference with the bowel, solid food cannot be handled

DISCUSSION

DR W B CANNON, Boston The persistence of the peristaltic rush in the anesthetized animal I have seen only in the upper part of the small intestine where food can be pushed through the loop shortly after it emerges from the stomach There it was spread along the intestine, where it was carried off by the activity of the intestinal wall I think that the rush in the jejunum is pushed through on that account

### Congenital Fixation of the Duodenum

DR WALTER L NILES New York I have seen 190 cases, in thirty-nine, operation was performed I think that many well defined cases of gastro-intestinal symptoms are due to this factor Many poorly nourished constipated children, said to have had acidosis suffer from these bands The symptoms are of two types (1) associated with epigastric pain and (2) toxic, with indigestion and flatulence The attacks of pain are not so severe as those of gallbladder origin The toxic cases are often called neurasthenia The neurasthenic picture overshadows the toxic element Two hours after food there is heaviness and distress, but no distress with an empty stomach Heavy meals emotional strain and physical strain aggravate the symptoms Most of the patients are constipated and show tenderness in the gallbladder region The diagnosis depends on the roentgen ray The stomach is found to be pulled to the right and of fishhook shape, and the duodenum is high and fixed and does not move with manipulation The duodenum is drawn to the right with relative angulation Gastric retention is not shown some patients have hyperperistalsis The duodenum is held up at the level of the second lumbar vertebra It is not necessary to operate in all cases, many respond to medical treatment We advise operation in young persons who are sustaining increasing disability and who would go on to gastric neurasthenia The operation is very simple, after separation of the band the duodenum will mobilize itself

### Value of Iron in Anemia

DR C S WILLIAMSON, Chicago Differences between animals on an iron-free diet and the controls with iron in the diet at the end of four months were negligible The liver spleen and bone marrow of these animals hold reserve iron which cannot be exhausted by bleeding There is no evidence that iron is converted into hemoglobin

DISCUSSION

DR TORALD SOLLMANN, Cleveland Dr Williamson did not get to the point that he was aiming at Normal animals recover hemoglobin in the time of the observations and giving iron on the top of that does not show more than the normal amount I think that the experimental animals should not recover normally There should be a depreciation of the reserve iron

DR ALEXANDER LAMBERT, New York These experiments do not follow the natural sequence of events If one takes an infection with hemolytic streptococci one can get an immediate destruction of the hemoglobin, as it is destroyed in illness Most experiments with drugs are dealt with on the basis of normal subjects, and the results are not comparable to those obtained with sick persons

## SYMPOSIUM ON DIABETES

### Epidemiology of Diabetes

DRS HAVEN EMERSON and J H LARIMORE, New York There is no way of proving that deaths from diabetes are more accurately recognized now than during the last sixty years I think that there is likely to be an understatement of deaths But increase in deaths does not mean increase in the incidence of the disease There was an increase in the death rate from diabetes between 1886 and 1893 Study of causes of death shows that there has been considerable shift in the leading causes of death Diabetes deaths were 2 8 per thousand and are now 16 1 per thousand, an increase of 493 per cent This brings diabetes up to eighth on the list as regards frequent causes of death In 1923, 1 4 per cent of all deaths were due to diabetes This is an increase of 900 per cent since 1866 It has been claimed that prohibition has indirectly caused a rise in diabetes owing to increased sugar consumption but there was a rise in the diabetic death rate before prohibition The main drop in death rate comparing all causes has been in that from infectious disease The present death rate for diabetes becomes 2 5 per cent of all deaths from all causes The diabetic death rate under 20 years is increased moderately but from 20 to 40 it is greatly increased and enormously increased after 45 In 1866, the male group exceeded the female but the female figures have steadily grown in number until in 1923 there is a tremendous increase in females especially in the later age groups The percentage of diabetic deaths has also shifted to an older age group in 1875 42 per cent of diabetic deaths were in persons under 20 now the younger persons number 23 per cent

### Changes in the Diabetic Clientele

DR E P JOSLIN Boston A new race of diabetic patients has come on the scene The duration of life in 1923 is 5 6 years longer than in 1921 The diabetic patient used to die at 41 now he lives till 52 The increasing morbidity of diabetes has reached its maximum There is no increase noted in the number of children coming for treatment The cases seen are of the older and milder type of the disease The steadily increasing number of doubtful types proves that the round-up in New York and Boston is about accomplished This will not last long, for every child saved from diphtheria and every young adult saved from tuberculosis is a candidate for diabetes The disease is fifteen times as frequent over 40 We deal more and more with the old. With increasing longevity diabetes is more common, and in New York and Boston one fiftieth of the death rate is diabetic. It is fifteen times as common among adults and twenty times as common among the fat, it is much more common among Jews, especially common among females Thus elderly, obese, Jewish women should make a point of trying to escape diabetes and to prevent it among their relatives Also Jewish physicians and preachers should strive to remove this stigma from their race The reason that the Jew has more diabetes is not that he is a Jew but that he is a fat Jew There is a tendency among Jews to obesity 84 per cent of them are overweight In the first two decades of life there is little diabetes among Jews but it greatly exceeds in the fourth and fifth decades In New York three tenths of the population is Jewish, and the diabetic death rate is consequently high

DISCUSSION

DR C L MINOR Asheville, N C Listening to Dr Emerson I was wondering whether he was justified in taking New York City as an example of the increase in diabetes from 1885 to 1895 It is the city of highest tension of living, and also with the highest percentage of Jewish population If Dr Emerson were to take, as examples, such cities as Birmingham, Ala. or Memphis Tenn where the well-to-do population is purely Anglo Saxon and where the extreme nervous tension of New York does not exist I think that he might get different statistics

DR HAVEN EMERSON, New York The reason I chose New York City as an example was that it is the only place in which there is sufficient care and intelligence shown in recording causes of death so that such figures will be of any statistical use There is no state or city whether with colored, Jewish, or purely Anglo-Saxon population that does not show increase in diabetic deaths That is the main point I believe that it is a matter of an overluxurious habit of life, a combination of injudicious feeding with inadequate exercise Of three million Jews in America, one million are in New York, which, of course, gives a rise in rate, in accordance with the increase in the Jewish element The relationship of diabetes to age is plain New Hampshire has the highest diabetic mortality and also the highest population over 45 years of age I think there is some evidence in this study that this disease is a manifestation in the overfat of a disturbance of function which was not intended to adapt itself to such an enormous carbohydrate element as that many people are accustomed to use It is about 500 years since sugar, as such, commenced to be generally used We are now using 103 pounds, as against 35 pounds formerly used per capita

DR E S KILGORE, San Francisco I believe that a chart showing the amount of automobile distribution in the past decade would correspond closely with the geographic distribution of diabetes

DR E P JOSLIN, Boston If we take the census years 1900, 1910, and 1920, and plot the age groups by five year periods, we find that the rate goes up for fifteen years and then drops, and then again later it goes up between 45 and 55 Thus, there is a rise in two periods when there is the greatest rapid growth and the greatest rapid decline of function In regard to sugar consumption and the relation to diabetes I would say that formerly there were a great many more apples eaten, and a large apple contains about 45 grams sugar Today the average consumption of sugar is about 100 gm a day, so that I do not believe we are getting much more sugar than formerly

### Heredity in Hypertension

DR J P O'HARE, Boston In examining these cases we find a very strong hereditary element In one family of nine members there was the following history of diverse circulatory disturbance The mother had chronic nephritis with hypertension the father had arteriosclerosis, other members suffered coronary infarct, angina pectoris, myocardial failure and vasomotor instability It was also found that in the families of cardiac patients there were other members showing vascular disease We analyzed 300 patients with permanent hypertension, and in 204 cases there was a family history of disease in the patient's family In my records there is 76 per cent familial incidence in vascular disease cases From two to nine relatives show heart, cerebral or kidney disease We then analyzed a control series of 436 cases of nonvascular disease, and found in this group a percentage of 37 per cent contrasted with 68 per cent in the vascular patients We found that a family history is twice as common in hypertension patients as in other patients One point was noticeable in the early history of these cases There was frequent vasomotor and emotional instability migraine, nosebleed, irritability, nervousness, cyanosed hands, all part of the hypertension diathesis, and commonly shown in the second decade of life These symptoms were presented in 50 per cent of the hypertensive patients as compared with 23 per cent of controls It is believed, therefore, that these early signs of vasomotor instability are a warning to physicians and friends of these hypertensive subjects to protect them from stress and strain, which play an important part in the production of hypertension

### The Relation of Growth Activity to the Pathogenicity of Streptococci and Pneumococci

DR A O BLOOMFIELD, Baltimore Experiments in which streptococci, staphylococci and Friedlander's bacillus were introduced into the upper air passages were negative The bacteria were eliminated within twenty-four hours We then tried to find out what factors break down the protective mechanism so that pathogenic organisms can gain ground We believe that this depends on the state of vegetative activity of the bacteria When introduced in a high state of activity, they produce disease We found that bacteria present four growth periods (1) a latent period, (2) the logarithmic period of rapid and uniform growth, (3) a stationary period when multiplication appears, (4) a period of decline when organisms die We then inoculated mice intraperitoneally with hemolytic streptococci (1) in the active period and (2) in the period of decline The actual number of viable organisms were measured For hemolytic streptococci 5 hours old, the minimal lethal dose for mice was 1½ millions, the same germs 24 hours old required 26 millions, at 36 hours old, 102 millions were needed The relation between an active young culture and the same culture older is 1 200 as regards virulence The same results were obtained in injections into mice with young and old cultures of pneumococci The conclusions are, therefore, that invasive power and pathogenicity are less in old than in young cultures Whether this is due to growth activity or to injury to the bacteria from cultural products, we do not know We believe that organisms in carriers are not in a very active vegetative stage

### Our Present Knowledge of Rickettsia in Nature and in Relationship to Disease

DR S B WOLBACH, Boston These organisms are very minute, difficult to stain and of intracellular habitat They are found in insect-borne diseases, such as Rocky Mountain spotted fever and typhus Seventeen of these organisms are found in *Arachnida* or ticklike insects So far *Rickettsia* are found in forty insects, some causing plant disease and a few possibly, causing disease in man Many insects harbor symbiotic organisms besides *Rickettsia* In the bedbug the *Rickettsia* is inside a mycetome, or organoid structure, that holds it The louse and the *Culex* mosquito have similar organisms, which have lost the cell membrane and inhabit a mycetome Doubt has been expressed as to whether these organisms can cause disease, but certain workers (Weigel and Arkwright) have succeeded in infecting lice, by rectum, with typhus virus and causing *Rickettsia*-like bodies in the insects We have achieved the same results in Rocky Mountain spotted fever The organisms cannot be cultivated They cannot be separated in the insect and the mammalian host from the virus producing the disease in typhus and Rocky Mountain fever We should identify these organisms with this type of disease

### Prevention of Constitutional Reactions in Desensitization Therapy

DR WALTER A BAETJER, Baltimore Constitutional reactions are not benign, they are disagreeable and sometimes dangerous Such reactions may be cardiac or abdominal symptoms, nausea and collapse By comparatively simple means it has been possible to control severe manifestations We begin the course of desensitization with a small amount in high dilution, with the faintest possible trace of protein We have to observe caution in three types of patients (1) those with marked idiosyncrasy, (2) those with severe asthmatic attacks, and (3) the plethoric, obese type with bull neck We grade the dose according to local reaction produced at the last injection If this is marked, we should be careful about increasing the next dose If we treat the patient with gradually increasing dilutions, the local reaction becomes more intense We must either reduce the dose or lengthen the interval The patients should be instructed to report any initial sensations, such as malaise or nausea If this is noted, the next dose is lessened until tolerance is gained We have made use of epinephrin to slow absorption and thus to minimize reactions In our work from 1917 to 1919 we had 5 8 per cent disagreeable reactions We have brought this figure down to 2 8 per cent Another precaution is in changing dilutions Jumping from low to high dilution, increasing the dosage, causes reactions, and changing from old to new preparations causes reactions We have made the unit dose 0 1 c c of 1 50,000, then going to 1 40,000, and so on, titrating down the dilutions, and making each dilution at the time of injection This tends to bring reactions down to the minimum

# Current Medical Literature

## AMERICAN

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*Aqueous Extracts of Pancreas IV Yield of Crude Insulin by Per fusion Percolation and Simple Extraction H D Clough, R. S Allen and J R Murlin Rochester N Y—p 213

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*Effect of Prolonged Fasting Followed by Realimentation of Gastric Secretion M M Kunde Chicago—p 389

*Biologic Food Tests VI Vitamin A and B Content of Citrus Fruit Products A F Morgan and M S Chaney Berkeley Calif—p 397

Awakening of Copulatory Ability in Male Albino Rat C P Stone, Stanford University Calif—p 407

**Insulin Found in Tissues Other Than the Pancreas**—In view of results obtained by various investigators, Best et al believe that insulin may prove to be a constituent of every cell in which carbohydrate is metabolized, and the islands of Langerhans to be specially developed structures to supply the active material when the demand for it is too great to be met by the insulin producing power of the individual cell The amounts of insulin found in tissues other than the pancreas, and the presence of insulin in diabetic tissues as long as eight weeks after the removal of the pancreas support this hypothesis The experiments reported in this paper show that insulin is present in the tissues of a diabetic dog This insulin may either be present in a comparatively inactive form in the diabetic tissues or some condition may exist in these tissues which inhibits the action of the insulin

**Gastric Secretion and "Alkaline Tide" in Urine**—The evidence obtained from experiments made by Hubbard et al which show an absence of the alkaline tide in cases with failure of the stomach to secrete hydrochloric acid, from the presence of two alkaline tides in most of the subjects investigated, from the absence of the morning tide when no nourishment was taken into the stomach, from the resemblance between the intensity of the tides following different types of breakfast and the reported effect of similar diets on gastric secretion, seems to the authors to indicate that the secretion of hydrochloric acid by the stomach is an important, if not the most important, factor in producing these variations in the acidity of the urine

**Methods of Extracting Insulin**—Three distinct methods of treating the pancreas of slaughter-house animals with aqueous solutions for extraction of insulin are described by Clough, Allen and Murlin, namely, perfusion, percolation and simple extraction In agreement with earlier preliminary results on the comparison of the three methods, the yield of crude insulin in the first filtrate is greatest after perfusion, next greatest after percolation and least after simple extraction This depends on a difference in the kind and amount of protein extracted from the pancreas cells By reextraction of the first precipitate after perfusion and simple extraction, but not after percolation as here carried out, it is possible to increase the yield of crude insulin enormously

**Circulatory Responses to Gastric Disturbances**—Dmitrenko asserts that inflation of the stomach and mechanical, chemical and electrical irritation of the gastric serosa are followed by definite cardiovascular and respiratory symptoms, the heart rate is accelerated, the arterial blood pressure is raised and the respiration is increased in both rate and amplitude These reflexes arise in the gastric musculature and are mediated chiefly, but not wholly, by the sympathetic fibers

**Theory of Secretion of Urine**—Observations made by Bieter and Hirschfelder of the frog's kidney by Richards' method showed that phenolsulphonephthalein and sodium sulphindigotate are excreted through the frog's glomeruli and can be seen in the capsular fluid They do not appear in the glomeruli or the tubules when the circulation through the glomeruli has been cut off, though the tubular blood supply is intact and hence, they are not excreted by the tubules So far as can be concluded from studies on the frog's kidney, the phenolsulphonephthalein test of renal function is a test of pure glomerular function and not of tubular function The dyes are markedly concentrated within the lumina of the tubules These experiments are said to furnish the first absolutely objective proof that has as yet been advanced for the theory that the urine is excreted in dilute form in the glomeruli and concentrated in the tubules by the reabsorption of water which occurs at least in the descending loops of Henle

**Effect of Sleep on Patellar Tendon Reflex**—It was observed by Tuttle that as a laboratory subject fell asleep the patellar tendon reflex gradually decreased, finally disappearing Whenever the subject was sufficiently awake to readjust his posture, the reflex returned, the degree of return depending on the degree of wakefulness When the sleep was interfered with by some external cause the reflex returned at once When the awakening was spontaneous the reflex gradually returned to normal There appears to be some degree of correlation between the reflex and the depth of sleep

**Effect of Hunger on Gastric Secretion.**—Kunde found that intense hunger seems to exert an inhibitory influence on the psychic secretions There is no increase in the continuous gastric secretion of dogs during twenty-seven days of fasting The gastric secretion during twenty-seven days of fasting at no time increased in amount or acidity above the secretion of the empty stomach under normal conditions There is a slight increase in the continuous secretion during realimentation after fasting but a marked increase in the secretion following feeding This may persist for from four to six weeks after breaking the fast

**Vitamin Content of Grapefruit**—Grapefruit juice, fresh and concentrated, was found by Morgan and Chaney to furnish very small amounts of vitamin A Pressed grapefruit oil and the ether extract of grapefruit peel were ineffective under like conditions Lemon juice likewise seemed to be of little value as a source of vitamin A The ether extract of lemon peel was found to exert a small but definite curative effect on vitamin A deficiency The striking contrast afforded by the high vitamin A content of orange juice peel and oil,

with the low content of the corresponding parts of the lemon and grapefruit is offered as an example of the futility of attempting to predict vitamin values from botanical or chemical relations A more orderly relation between character of liprochromes in these fruits and their vitamin A content is postulated The value as sources of vitamins A and B of samples of commercial and home-made orange and lemon marmalades and candied orange peels was found to differ considerably, the home-made products showing a considerably higher value in all cases than did the commercial products This is apparently an illustration of the possibility of controlling vitamin destruction by modification of certain cooking processes in favor of shorter periods and lower temperatures

## American Journal of Public Health, Albany, N Y

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Comparative Studies on Kahn Precipitation Test and Wassermann Test O Ishii, New York —p 612
Two Methods of Washing Eczematous Hands A L Glaze, Birmingham, Ala —p 621


**Blood in Common Skin Diseases**—Towle and Swartz made a study of the blood in twelve cases of pemphigus, fourteen cases of dermatitis herpetiformis, seven cases of dermatitis exfoliativa, twenty cases of erythema multiforme, twenty-five cases of impetigo, ten cases of scabies, twenty-three cases of psoriasis, twenty-eight cases of eczema and twenty-five cases of lupus vulgaris The discussion of the findings is on the basis that diseases which show similar disturbances in the blood must be due to agents which also possess similarities

**Coccidioidal Granuloma**—A case of coccidioidal granuloma of twelve years' duration, originating in Southern California, is described by Davis Amputation of both feet has been performed in an attempt to control the infection Active lesions on both arms still exist The older lesions tend to heal, with considerable scarring, while new lesions appear in other parts of the body There is no evidence of visceral involvement In the extremities the infection involves the skin, muscle, ligaments, fascia and bone From the character and distribution of the lesions blood dissemination is suspected Smears and cultures from lesions are constantly positive for *Coccidioides immitis* Agglutination tests were negative Complement fixation was obtained, using a concentrated culture as antigen

**Copper Sulphate Necrosis**—Cole reports the case of a man who sustained a considerable necrosis of the external genitalia and surrounding region from the free application of a solution of copper sulphate This self medication was for a sore on the penis Cole urges that there should be more stringent laws regulating the sale of dangerous drugs and caustics In this case, if the patient had been forced to obtain his copper sulphate on a physician's prescription, his trouble would never have existed

**Complement Fixation Test with Dried Blood**—Chapman reports on a series of investigations made to determine whether the patient's blood could be collected on filter paper, dried and used in the complement fixation test for syphilis The results were favorable Apparently such blood specimens can be kept for at least one month with little deterioration of complement fixing power The method is simple and, if satisfactory, has advantages over the present technic of blood collection Further work is being conducted in order to determine the reliability of this method

## Archives of Ophthalmology, New Rochelle, N Y

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Operation for Cross Eye Where Glasses Correct Deformity Four Cases J A Kearney, New York —p 274
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**Endocrine Origin of Glaucoma**—In twenty-seven out of thirty-one cases seen by Imre, the close connection between endocrine disturbances and glaucoma was made highly probable Examination gave, in several cases, strong evidence of an abnormal state of the endocrine system

**Vascular Hypertension Increases Intra-Ocular Pressure**—Adler et al show that when the blood pressure is raised the intra-ocular pressure is increased This increase, however is kept in check by a local vasoconstriction of the ocular blood vessels through the cervical sympathetic This mechanism is a protective one to the eye, and prevents sudden changes in general blood pressure from causing harmful changes in intra-ocular pressure This protective action is increasingly effective as the blood pressure ascends No effect on intra-ocular pressure is seen when the cervical sympathetic is cut at normal blood pressure In the normal animal, as the blood pressure is raised, the intra-ocular pressure rises in direct proportion to it

**Dermoid of Eyelid**—The tumor in Gradle and Stein's case was situated in the right upper eyelid It was removed Microscopic examination revealed a wall with essentially the structure of external skin, a substratum of connective tissue supporting an epithelial lining like that of the external skin, with some sebaceous and sweat glands There was no evidence of malignancy

## California and Western Medicine, San Francisco

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Coccidioidal Granuloma in Southern California R W Hammack and J M Lacey Los Angeles—p 224
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**Fractures of Spinal Column**—Twenty-five of the fifty-two cases of spinal fracture reported by Cleary were the results of falls from a height ranging from six to seventy feet Relatively short falls were responsible for some of the severe fractures Eighteen injuries were caused by heavy masses falling on the patient and crushing him forward Several of these resulted in so-called "jack-knifing" of the patient, that is to say, forcing the spine into such acute flexion as to cause it to buckle Four patients were struck on the shoulders or upper part of the back by heavy objects in such a way that the impact, rather than the weight of the mass, caused the injury In four instances, low lumbar fractures were associated with heavy lifting and twisting strains Four patients gave clear histories of previous injuries, at least three of which were old undiagnosed fractures, more or less completely recovered from, and discovered when a recent more trivial injury attracted attention to the region of previous fracture Less then 30 per cent were correctly diagnosed early The treatment is discussed Originality is claimed for the operation in which paired grafts are inserted across the zygapophysial articulations after splitting of the articulating facets Adequate fusion operation is said to shorten convalescence and give a higher degree of recovery than conservative treatment in the average patient Cleary is of the opinion that the Hibbs operation is, on the whole more efficient than the Albee graft fusion Carefully directed physiotherapy is an essential part of treatment

## Florida Medical Association Journal, St Augustine and Jacksonville

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*Variations in Acid Base Balance of Blood in Disease V C Myers and L E Booher New York—p 699
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*Depletion of Vitamin C in Liver of Guinea Pig in Scorbutic Ration H I Parsons and M S Reynolds, Madison Wis—p 731
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Synthesis of Normal Fatty Acids from Stearic Acid to Hexacosanic Acid P A Levene and T A Taylor New York—p 905

**Nucleotid in Normal Blood**—What appears to be a pentose nucleotid has been isolated from human blood by Jackson, and its physical properties, elementary composition and decomposition products have been studied This substance is believed to be adenin nucleotid combined with or mixed with an equal quantity of a pyrimidin nucleotid

**Effect of Addition of Ether to Blood**—Austin and Gram found that the addition of ether to blood in vitro in a concentration comparable with that present in the blood of a fully anesthetized animal causes no change in the carbon dioxid or chlorid content of cells or serum, nor in the $p_H$ nor in the cell volume when the blood is equilibrated at a given carbon dioxid tension

**Rôle of Cholesterol in Fat Metabolism**—The inference that the unsaturated acids are mainly transported from the liver to the tissues as cholesterol esters and that cholesterol, therefore takes an active part in the metabolism of the fatty acids Bloor finds difficult to accept because of the chemical inertness of the cholesterol esters Nevertheless the data presented give further support to the growing belief that cholesterol must be seriously reckoned with in the consideration of fat metabolism The cholesterol esters of blood plasma consist not only of palmitate and oleate as shown by Hurthle but also of a large proportion of the esters of the more unsaturated acids

**Diet in Relation to Reproduction**—Anderegg's experiments have shown that normal growth and reproduction result when whole milk powder is the only source of protein and vitamins in the diet In order to obtain optimum results in nutrition the proportions of fat protein and salts must be within certain limits The proportion of protein in the diet has a marked influence on the well-being of the suckling, although the first generation may grow at the normal rate The data presented show that it is unnecessary to assume the existence of a new vitamin for reproduction

**Seat of Bile Production**—Smyth and Whipple furnish data on experiments made to determine the seat of bile production Small doses of chloroform give more evidence that the bile salts are produced by the liver cell and not elsewhere in the body As chloroform acts strongly on the cell nucleus it is suggested that the bile salt activity of the liver cell may be largely under the control of its nucleus Phosphorus in small doses may have no effect on the bile salt output or it may even have a stimulating influence In large doses phosphorus depressant effect on bile salt output in fistula bile.

**Modification of Bile Production**—Smyth and Whipple assert that protease intoxication is associated with a fall in

bile salt output in fistula dogs in spite of the well known increase in body protein catabolism It is probable that this reaction is an indication of real injury done the liver cell by the proteose In this respect proteose intoxication resembles phosphorus poisoning Roentgen-ray exposure over the liver (one-third minimum lethal dose) does not usually modify the bile salt output, but 200 ma minutes or more given over the liver may be expected to cause some decrease in bile salt output This indicates a slight or moderate injury of the hepatic epithelium by the roentgen rays even though lethal dosages give no evidence of histologic injury of live epithelium Thyroid extract and thyroxin given in sufficient dosages to cause an increase in the urinary nitrogen do not modify appreciably the bile salt output

**Increasing and Decreasing Bile Production**—Gelatin feeding, in contrast to meat feeding, does not increase the bile salt output Salmon muscle, like beef muscle, feeding causes a marked increase in the bile salt output in fistula bile Commercial beef extract has no influence on bile salt output in fistula bile Likewise, watery extracts of meat and liver, as well as alcoholic extracts of meat and liver, made in the laboratory were inert Yeast and cod liver oil feeding shows a suggestive inhibitory reaction which Smyth and Whipple cannot explain

**Influence of Drugs on Bile Production**—Atropin and pilocarpin have no influence on bile salt output in bile fistula dogs Phlorizin and quinin are negative Calomel, hydrochloric acid sodium salicylate and alcohol have no constant influence on output of bile salt in fistula bile

**Carbohydrate Metabolism Studies**—The results of Harrop and Benedict's experiments indicate a shift in the mobile phosphate stores of the body during the process of active carbohydrate assimilation There is a lessened phosphate excretion in the urine during this period, with tissue phosphate retention, which latter phosphate is later again released One site of phosphate retention is shown to be in the muscle tissues, which are also one of the chief sites of carbohydrate storage All the data presented are consistent with the assumption that in the storage of carbohydrate as glycogen, the intermediary aid of inorganic phosphates is required This aid would appear to be, at least to a considerable degree, temporary in nature, because at the end of the active stage of carbohydrate anabolism, the retained phosphate is again released The shift of phosphates following insulin injection is shown to be a constant phenomenon

**Acid-Base Balance in Blood Diseases**—Myers and Booher assert that, contrary to the opinion formerly held, patients may live for a comparatively long period with low $p_H$ values The data reported are in harmony with the conception of the variations in the acid-base balance of the blood advanced by Van Slyke

**Vitamin C in Liver**—From the results presented by Parsons and Reynolds it is seen that in the liver of the normal guinea-pig, vitamin C is found in abundance, and that in the liver of the guinea-pig fed a diet lacking in this factor, vitamin C becomes strikingly depleted

**Studies on Ether Absorption**—The laws governing the concentration of ether in air and its distribution between air and blood are discussed by Haggard A modification of the method of ether analysis for use in the presence of acetone is given In no instance was acetone found in the expired air of animals to which ether was administered Ether which is absorbed into the body is in no way altered or changed It is eliminated largely through the expired air (87 per cent), also through the urine, probably through perspiration, and to some extent from any exposed serous surface The ether concentration of the urine is virtually that of the arterial blood passing through the kidneys at the moment of secretion The ether concentration of the urine voided after a period of ether administration is a composite of the various levels of arterial ether and of the varying rate of the urinary secretion The urine collected between catheterizations and in a plateau of the anesthesia has an ether content equal to that of the arterial blood during the same period Under conditions of full saturation, the content in arterial blood, multiplied by the body weight, is an index of the total ether absorbed The mixed venous blood drawn from the right heart serves at all times as an index of the total amount of ether in the body

**Ether Absorption and Elimination**—A mathematical analysis of the mechanism of ether absorption and elimination is presented by Haggard A full experimental foundation for the use of carbon dioxid in connection with rapid induction and elimination of ether is laid

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**Excretion of Imidazols in Urine**—A survey made by Koessler and Hanke of the imidazol excretion in thirty two cases of nephritis of different types suggests that, in general, the excretion of imidazols is inversely proportional to the severity of the disease The greater the involvement of the kidney parenchyma the greater the quantity of imidazols retained in the body, or the smaller the quantity of imidazols excreted in the urine The urinary excretion of imidazols usually proceeds parallel with the excretion of the other nitrogenous catabolites In the majority of cases in which the concentration of the other nitrogenous catabolites in the blood is increased, the concentration of imidazols in the urine is correspondingly decreased A comparison of the imidazol excretion with the phenolsulphonephthalein excretion generally also reveals a certain parallelism Thus the severest degrees of disturbance in the renal function as measured by the phthalein excretion correspond to the ones in which the imidazol excretion was impaired to the greatest degree

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6 1-44 (May) 1924

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Hygiene of Pulp and Paper Industry F G Pedley—p 28

## Journal of Infectious Diseases, Chicago

34 433-548 (May) 1924

*Lens Precipitins Antigenic Properties of Alpha and Beta Crystallins L Hektoen and K Schulhof, Chicago—p 433
*Precipitin Reaction of Bence Jones Protein L Hektoen and W H Welker Chicago—p 440
Immunologic Significance of Vitamins IV Influence of Lack of Vitamin C on Resistance of Guinea Pig to Bacterial Infection, on Production of Specific Agglutinins and on Opsonic Activity C H Werkman, V E Nelson and E I Tulmer, Ames, Iowa—p 447
*Pneumonia Death Rate and Types of Pneumococci in Norway T Thjotta and O Hanneborg, Christiania, Norway—p 454
*Studies of Intestinal Bacteriology I A Goldman, New York—p 457
*Id II Effect of Special Feeding on Intestinal Flora A Goldman, New York—p 502
*Id III Study of Nonhemolytic Streptococci from Human Intestinal Tract A Goldman, New York—p 509
*I Determination of Heat Resistance of Bacterial Spores J R Esty and C C Williams Washington, D C—p 516
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**Lens Precipitins**—Hektoen and Schulhof assert that the constituents of the lens called alpha and beta crystallins may be obtained in such form that they are precipitinogenically wholly distinct from each other, but each seems to be practically identical in the different mammalian lenses examined by them Their presence in the lens of various species, including certain fishes, explains, at least in part, the organ specificness of lens precipitins In other words, the lens of different species always contains the same two chemically and antigenically distinct proteins When previously under the antigenic influence of lens of other species, rabbits may produce lens precipitins on injection of rabbit lens Normal rabbits may react with precipitin formation to injection of rabbit crystallins As illustrated by the menhaden fish lens may have antigenic elements in common with the mammalian lens, but it also contains larger amounts of other antigenic constituents that seem to be of a more limited specificness

**Precipitin Reaction of Bence-Jones Protein** — Precipitin tests made by Hektoen and Welker of urine and serum from cases of myeloma, aided by specific absorption methods, indicate that Bence-Jones protein is distinct and different from normal blood proteins On precipitation with ammonium sulphate, the Bence-Jones protein in the urine of a myeloma patient was not obtained in pure form, being mixed especially with pseudoglobulin, but after crystallization by Hofmeister's method for preparing crystallized egg albumin, traces only of pseudoglobulin and albumin were retained in solutions of the crystals, and on injection of rabbits these solutions called forth specific Bence-Jones precipitins in large quantities The difference in chemical behavior of the Bence-Jones protein under discussion and of that studied by Krauss suggests that immunologic varieties of this protein depend on recognizable chemical differences

**Pneumococcus Types in Norway**—The different types of pneumococci appear to occur in about the same relative proportion in Norway as in the United States The death rate from typical lobar pneumonia appears to be less in Norway than in the United States

**Bacterial Flora of Intestine** — The object of Goldman's investigation was to ascertain the variations of the bacterial flora, aerobic and anaerobic, in respect to numbers and to species, at certain levels of the small intestine, in health and disease The number of viable bacteria in the intestinal contents of four normal persons and twenty hospital patients varied within wide limits The number of viable bacteria in the intestinal contents of patients confined to a light meat-free diet usually appeared to be considerably higher in those ill with gastro-intestinal disturbances or with diseases associated with metabolic disturbances or with focal infections or possible gastro-intestinal origin than in patients with diseases apparently unconnected with the alimentary tract The flora, in normal and pathologic cases, was usually of mixed bacterial character forms with widely varying metabolic requirements multiplying in the same specimen Even when the intestinal contents were entirely dominated by one bacterial species, further analysis into cultural and biochemical properties revealed the presence of two or more varieties Several specimens from the same person taken under similar conditions usually showed approximate correspondence in bacterial numbers and in the predominant species Gram-negative bacilli of the colon group gamma type streptococci, and gram-positive bacilli of the acidophilus group appeared to be a normal feature at the levels studied Spore-bearing aerobes, accompanied by proteolytic activity, appeared to be a normal feature of the intestinal contents Anaerobes were absent in four normal specimens but were found in many specimens from pathologic subjects, but not necessarily in all specimens from the same person Large numbers of spore-bearing aerobes were not as common as in specimens from normal persons The presence in considerable numbers of spore-bearing aerobes in normal subjects was attributed to the presence of meat in the diet

**Effect of Feeding on Intestinal Flora**—The strain of *Bacillus acidophilus* fed in large quantities to one patient could not be implanted in the intestine Lactose feeding was more effective in increasing the number of *B acidophilus* It seemed most effective however, in increasing the number of streptococci Large numbers of viable *B acidophilus* introduced directly into the small intestine were rapidly eliminated After a diet sterile except for a broth culture of *B acidophilus* the intestinal content at a depth of 75 inches was almost sterile, streptococci being the only recoverable organisms in a few tubes of liquid medium It is suggested that streptococci may represent the indigenous bacterial flora of this person at the level tested

**Nonhemolytic Streptococci from Intestinal Tract** — The same strain of nonhemolytic streptococcus, identified by agglutinin absorption methods was twice recovered by Goldman from the intestinal contents of one patient at an interval of two months The persistence of this strain may indicate a well adapted flora native to the intestinal tract of the person from whom the strain was at intervals disseminated Normal human serum appears to contain a high antibody content of group agglutinins for some nonautogenous streptococci from the small intestine

**Heat Resistance of Spores**—A new method for determining the thermal death points of heat resistant spores is described by Esty and Williams The principle involved is the heating of a large number of tubes, at least from twenty-five to thirty, each containing the same suspension, and all heated alike for at least four different times, that are well selected in order to cover the entire range of heat resistance based on percentage survival This new method has a direct bearing on all sterilization processes, since the actual (resistance) death point can be determined more accurately

## Journal of Pharmacology and Experimental Therapeutics, Baltimore

23 163 268 (April) 1924

*Effect of Alcohol on Patellar Tendon Reflex W W Tuttle Columbus —p 163
Anaphylactoid Phenomena from Various Agents Injected Intravenously P J Hanzlik San Francisco and H T Karsner, Cleveland —p 173
Quantitative Protozoocidal Comparison of Opium Alkaloids C E Bills and D I Macht Baltimore —p 261

**Effect of Alcohol on Patellar Tendon Reflex**—Data were collected by Tuttle from twelve normal subjects in good health The usual method of procedure was to allow each subject to deliver normal kicks for some minutes, after which various quantities of alcohol were given by mouth The effect on the knee jerk was noted Of the twelve subjects, nine showed augmentation, two depression and one no effect The fact that the data showed a marked variation in the threshold for alcohol indicates that the dose was too small in case of the subject who showed no effect Both subjects whose knee jerk was depressed reported that they were accustomed to drinking alcohol daily Those whose knee jerk was augmented drank alcoholic liquor only occasionally

## Laryngoscope, St Louis

34 243 320 (April) 1924

Diagnostic Value of Cold Caloric and Rotation Tests S J Kopetzky and R Almour New York —p 243
Treatment of Optic Nerve Involvements as Determined by Optic Canal Radiographs L E White Boston —p 255
Operation for Correction of Elongated and Humped Noses J D Whitham New York —p 271
Enucleator that Isolates Tonsil and Contents from Mouth and Pharynx During Tonsillectomy N Bigelow Providence R I —p 273
Instrument for Complete Enucleation of Tonsil A J Shekter Jamaica, N Y —p 277
Removal of Faucial Tonsils H J Mulford Buffalo —p 281
Guarded Septum Chisel S L Ruskin New York —p 288
Galvanocautery in Tuberculosis of Larynx G Fetterolf Philadelphia —p 290
Method of Making Direct Laryngoscopy W M Thompson Chicago —p 300
Trap Door Esophagoscope C Jackson Philadelphia —p 305
Apparatus for Douching Ear for Removal of Cerumen M L Harris Brooklyn —p 307

## Medical Journal and Record, New York

119 433 480 (May 7) 1924

*Treatment of Deafness P D Kerrison New York —p 433
*Early Hanot's Disease E St Infield and S H Kohlman Philadelphia —p 440
Head Injuries J F A Jones and G E Pfahler Philadelphia —p 442
Extirpation of Cervical Rib Under Local Anesthesia L R Ellars Louisville Ky —p 445
Relation of Cholesterol Metabolism to Cholelithiasis and Infection of Biliary Apparatus A O Wilensky New York —p 447
Alcohol Taxation and Delirium Tremens in Denmark K H Krabbe Copenhagen —p 450
Education Stoops to Conquer S D House Los Angeles —p 451
Treatment of Endarteritis Obliterans Syphilitica with Intravenous Injection of Comminuted Mercury I G Young Brooklyn —p 453
Arsenical Treatment of General Paralysis C G Cumston Geneva Switzerland —p 454
Present Status of Blood Transfusion A I Rubenstone Philadelphia —p 455
Christian Science in Time of Galen J Wright Pleasantville N Y —p 459

SUPPLEMENT

Suprarenal Cortex and Medulla in Respiration vs Diffusion Doctrine of Physiologists C E de M Sajous Philadelphia —p xcvii
Clinical Classification of Goiter C G Heyd New York —p ci
Real Value of Basal Metabolic Rate A S Jackson Madison Wis —p cv

bile salt output in fistula dogs in spite of the well known increase in body protein catabolism It is probable that this reaction is an indication of real injury done the liver cell by the proteose In this respect proteose intoxication resembles phosphorus poisoning Roentgen-ray exposure over the liver (one-third minimum lethal dose) does not usually modify the bile salt output, but 200 ma minutes or more given over the liver may be expected to cause some decrease in bile salt output This indicates a slight or moderate injury of the hepatic epithelium by the roentgen rays even though lethal dosages give no evidence of histologic injury of live epithelium Thyroid extract and thyroxin given in sufficient dosages to cause an increase in the urinary nitrogen do not modify appreciably the bile salt output

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*Pneumonia Death Rate and Types of Pneumococci in Norway T Thjotta and O Hanneborg, Christiania, Norway—p 454
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## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

### British Journal of Children's Diseases, London

21 1 80 (March) 1924

* Idiopathic Hypertrophy of Bladder A D Fordyce and N B Capon —p 1
Late Rickets and Osteomalacia H S Hutchinson and G Stapleton —p 18
Calcium and Phosphorus Content of Blood in Normal and Rachitic Children G H Anderson —p 33
*Anemia with Enlarged Spleen in Infancy and Childhood. G W C Ramsay —p 48
*Precocious Puberty R Hutchison and G M Wauhope —p 57

**Idiopathic Hypertrophy of Bladder**—In neither of the two cases reported by Fordyce and Capon was there tangible or obvious cause for the condition present The cases at first sight resembled chronic interstitial nephritis Physical examination revealed a globular hypogastric mass which was the hypertrophied bladder Otherwise there are in these cases usually no definite abnormal physical signs The children affected are often undersized, ill nourished, and develop in the course of time uremic symptoms Urinary infection always occurs sooner or later There is marked renal inefficiency As seen postmortem, the condition consists in hypertrophy and dilatation of the bladder, dilatation of the ureters and dilatation of the pelves of the kidneys, with cystlike degeneration of the kidney tissue No organic source of obstruction was found in either case here reported A remarkable feature of the bladder in both cases was the complete replacement of the transitional epithelium by columnar epithelium

**Infantile Splenic Anemia**—On analyzing 120 cases of anemia in children under 4 years of age, Ramsay found twenty-five that showed all the features which are generally considered essential to justify a diagnosis of infantile splenic anemia, i e, cases in which there were anemia, degenerating and regenerating forms of red cells, myelocytes in the peripheral blood and enlargement of the spleen Tuberculosis was present in four cases, pneumonia in three, syphilis in one There was a history of hemorrhage of varying degrees in four cases, chickenpox was present in one case, rickets in twenty-two It is suggested that rickets may be a predisposing factor in the etiology of this disease

**Precocious Puberty**—Hutchison and Wauhope relate the case of a girl, aged 3½ years, who began to menstruate at the age of 17 months and continued to do so The period lasted for two or three days, and returned at regular intervals of twenty-eight days, except on three occasions when the interval was exactly two months After the child's third birthday the interval became irregular and of longer duration, i e, from two or three days to a fortnight over the month The presence of pubic hair was noticed at the time of the onset of the first period The breasts were enlarged She had eight teeth at ten months, she walked at fourteen months She had no illness and never suffered from headache or vomiting

### British Medical Journal, London

1 697 736 (April 19) 1924

*Endocrinology from Physician s Point of View A E Gow —p 697
Differential Diagnosis Between Acute Thoracic and Acute Abdominal Lesions V Z Cope —p 700
Carbuncle Treatment by Magnesium Sulphate A E Morison —p 703
Correct Technic of Injection Method of Treating Hemorrhoids P K Murphy —p 704
Brain and Mind R J A Berry —p 707
Linimentum Calcis Chlorinata in Treatment of Burns J W Tomb —p 711
Secondary Hemorrhage Following Acute Mastoiditis L D Mercer —p 711
Congenital Deformities of Forearm Hand and Leg H E Harris Jr —p 711
Paroxysmal Tachycardia H E K Reynolds —p 711

**Value of Endocrine Therapy**—Gow is of the opinion that the majority of extracts of ductless glands, as at present prepared have no obvious effect administered by mouth Animal experiment has shown that tissue extracts in general when injected intravenously, have much the same effect as any other foreign protein, and, with few exceptions, are in no way specific There is no evidence that any extract other than thyroid or parathyroid is absorbed as such from the alimentary tract However, epinephrin is valuable in shock, in asthma and other spasmodic affections such as cardiospasm, urticaria and angioneurotic edema, and pituitary extract is a stimulant to a failing myocardium, especially in toxic myocarditis and in the third stage of labor Gow states emphatically that if any advance in therapeutics is to be made with glandular extracts of doubtful action the practice of giving multiple extracts as a sort of blunderbuss, in the hope that one among the many may hit the mark, must be checked

**Magnesium Sulphate Treatment of Carbuncle**—Morison has treated twenty-eight cases of carbuncle by applying to the whole of the inflamed area a paste of magnesium sulphate Eleven ounces of glycerin are put in a hot mortar and 1 5 pounds of dried magnesium sulphate are added, slowly stirring and mixing with a warm pestle The result is a thick white cream, so hygroscopic that if exposed to the air it rapidly absorbs moisture and becomes fluid The paste is spread thickly on a piece of sterile white lint sufficiently large to cover the whole of the inflamed area A piece of jaconet is put over the lint to cover it entirely, and cotton-wool in abundance over and around the part The dressing is left unchanged for twelve or twenty-four hours and then renewed Within a few days the central slough separates and a raw granulating surface is left As soon as the slough has separated the crateriform ulcer is dressed with the paste until all signs of sphacelating cellular tissue have disappeared and a healthy granulating surface is seen The cavity is then packed daily and the undermined edges supported with strips of sterile lint about 1½ inches wide, wrung loosely out of a saturated solution of magnesium sulphate made by dissolving 40 ounces of the sulphate in 30 ounces of boiling water and 10 ounces of glycerin, and sterilizing in an autoclave The whole area is then covered with a double layer of lint saturated with the solution, over which a piece of jaconet and then cotton-wool is placed, and fixed loosely in a bandage This dressing is renewed daily until the healthy firm granulation tissue is level with the surrounding skin margins It can then be covered with Thiersch skin grafts or allowed to epithelialize from the edges if the surface is not too extensive

**Chlorinated Lime Treatment of Burns**—A solution of chlorinated lime has been used by Tomb in the treatment of burns with much satisfaction Burns treated with this liniment heal rapidly without pain, suppuration or rise of temperature, sloughing, dead or decomposing material quickly disappears, in short, the liniment possesses all the antiseptic qualities of the hypochlorites together with the original virtues of linimentum calcis

### Brain, London

47 1 108 (Feb ) 1924

*Pathogenesis of Cerebral Diplegia J Collier —p 1
*Dissociation of Voluntary and Emotional Innervation in Facial Paresis of Central Origin G H Monrad Krohn —p 22
*Pathologic Anatomy of Disseminated Sclerosis C P Symonds —p 36
Study of Electromyograms of Voluntary Movement F Golla and J Hettwer —p 57
Electromyographic Studies of Experimental Convulsions S Cobb —p 70
*Sequels of Lethargic Encephalitis A G Duncan —p 76
Pyknolepsy W J Adie —p 96

**Pathogenesis of Cerebral Diplegia.**—Primary degeneration of the neurons is considered by Collier to be the essential and primary lesion in all cases of diplegia Arrest or development of the brain and of its outgoing paths is the natural consequence of the neuronic lesion when this occurs during the earlier periods of development of the brain, and consequently it only occurs in prenatal cases Atrophic sclerosis of the brain is the natural consequence of the neuronic decay It is more marked the earlier in life the neuronic decay occurs and the longer the patient has lived after the degeneration has been installed.

**Motor Apparatus in Facial Paresis.**—In four cases of central facial paresis Monrad-Krohn found an acceleration

and exaggeration of emotional movements of the face, combined with voluntary paresis of the same distribution This, in his opinion, can be only regarded as a "phenomene de liberation" It suggests that the emotional motor apparatus is distinct from the voluntary motor apparatus, and that the former is normally subjected to a continuous inhibition by the voluntary motor centers, probably exerted through the pyramidal fibers This supports the belief that the lenticular nucleus (probably its pallidal part) contains the motor center for emotional innervation, the thalamus probably being the corresponding sensory center in the emotional reflex arc

**Pathology of Disseminated Sclerosis**—Symonds reports a case of disseminated sclerosis in which true inflammatory changes were shown to be present Innumerable foci of degeneration were scattered through the cerebrospinal axis The distribution of these foci was that commonly found in disseminated sclerosis, viz, in the white matter of the cerebral hemispheres, and especially around the posterior horns of the lateral ventricles, in the optic chiasma, in the brain stem, especially around the aqueduct of Sylvius, in the posterior and lateral columns of the spinal cord

**Sequels of Lethargic Encephalitis**—Duncan asserts that evidence of mental impairment or of organic disease of the nervous system is found in nineteen twentieths of patients who have suffered from lethargic encephalitis, in two fifths there is serious and frequently progressing disability The severe and occasionally fatal nature of the sequels, their irregular clinical course with remissions and relapses, and the frequently acute onset of these relapses, strongly suggest that in some cases the virus of lethargic encephalitis continues to exist in the nervous system long after the acute symptoms have subsided

## China Medical Journal, Shanghai

38 169 254 (March) 1924

Epidemic Encephalitis M O Pfister—p 169
Diagnosis of Trachoma E J Stuckey—p 182
Routine Examinations of Urine in Korean Hospital J D Van Buskirk—p 184
Psoriasis Vulgaris F Reiss—p 195
Leukocyte Count in Pregnancy F R Crawford—p 199
*Globulin Precipitation and Formol Gel Tests in Kala Azar E B Struthers and C C Chun—p 203
*Kala Azar Criterion of Cure E B Struthers—p 207
Public Health of Antung, Manchuria L K Larsen—p 221
Carrel Dakin Cell with Alternating Current B R Stephenson—p 222
Industrial Accidents, Shanghai H W Decker—p 226

**Globulin Precipitation and Formol-Gel Tests in Kala-Azar**—Of 141 kala-azar patients tested by Struthers, 92.9 per cent gave a positive globulin precipitation test, and 98 per cent a positive aldehyd test

**Criteria of Cure in Kala-Azar**—The most satisfactory criteria of cure of kala-azar in Struthers' experience are (1) increase in general well being and weight, (2) a return to normal temperature continued for a month or six weeks (3) decrease in size of the spleen, and (4) an increase of leukocytes and hemoglobin

## Heart, London

11 1-79 (Jan.) 1924

*Auricular Fibrillation in Domestic Animals J Roos—p 1
*Aortic Lesions of Subacute Infective Endocarditis R T Grant—p 9
*Reaction to Exercise of Heart Affected by Auricular Fibrillation H Blumgart—p 49
*Clinical "Capillary Pulsation" E P Boas—p 57
*Auricular Flutter F N Wilson—p 61
*Ventricular Tachycardia During Attack of Paroxysmal Auricular Tachycardia P S Barker—p 67
Nerve Supply of Coronary Artery of Tortoise I The Artery A N Drury and F M Smith—p 71

**Auricular Fibrillation in Domestic Animals**—Four cases of auricular fibrillation in the horse and three cases in the dog are described by Roos It is said that in the horse the affection is not a rare one, whereas, in the dog it is

**Aortic Lesions of Subacute Infective Endocarditis**—Thirty cases of subacute infective, or bacterial, endocarditis were the basis of Grant's study A survey of this material and of past records shows that an endocarditis associated with lesions of the aortic wall and its sinuses is usually of the subacute infective type Hitherto these aortic lesions have been interpreted variously as arising either from embolism of the nutrient vessels of the aorta or from infection of the intima The evidence from previous cases tends to show that although embolism is a possible cause, intimal infection from the lumen of the aorta is the usual mode of origin Illustrative cases are given in which vegetations of the heart valves have given rise by contact to similar lesions on neighboring structures In the present series of thirty cases of subacute infective endocarditis, lesions of the aorta and sinuses were present in fifteen These lesions were in the form of vegetations, fissures and aneurisms, and their distribution on the surface of the aorta and sinuses leads to the conclusion that they are all due to surface infection from contact with vegetations of the aortic valves

**Effect of Exercise in Auricular Fibrillation**—As compared to the reaction of a normal heart, the heart affected by auricular fibrillation was found by Blumgart to respond to test exercise by a disproportionate rise in ventricular rate, and a delayed return to the previous resting level The delayed return of the ventricular rate in auricular fibrillation to previous resting level is not due to the abnormal mechanism, but to an additional factor For it is also exhibited, as is also an exaggerated rise of ventricular rate in response to exercise, by the same patients when the heart's mechanism has been restored to normal In these respects the reaction is similar to that found in the "effort syndrome" Digitalis in ordinary therapeutic doses fails to protect the ventricles from the exaggerated response to exercise In auricular fibrillation, when the ventricular rate rises as a result of exercise, the auricular rate usually falls

**Clinical Capillary Pulse**—Boas is of the opinion that the clinical "capillary pulse" on the lip, forehead, and on the finger over the root of the nail, is mainly a phenomenon not of the capillaries of the papillae of the skin or mucous membrane, but of the subpapillary and cutaneous vascular plexuses

**Auricular Flutter**—Wilson reports a case of auricular flutter in which vagus stimulation was followed by a conspicuous increase in the rate of the circus rhythm This increase is attributed to a shortening of the path of the circus wave brought about by a reduction in the length of the refractory period of the auricular muscle

**Ventricular Tachycardia During Auricular Tachycardia**—Barker cites a case showing a short run of irregular ventricular tachycardia during an attack of paroxysmal auricular tachycardia

## Journal of Tropical Medicine and Hygiene, London

27 85-96 (April 15) 1924

Cholera in Bagdad T B Heggs—p 85

## Lancet, London

1 887-934 (May 3) 1924

*Influence of Tropical Climate on Man C Eijkman—p 887
*Tinnitus Aurium Associated with Abnormalities of Blood Pressure H M Wharry—p 893
Diagnostic Value of Roentgen Ray Examination in Traumatic Intestinal Rupture G Massie—p 895
Case of Protracted Diabetes Mellitus in Childhood Arrested by Insulin W H Passmore and M O Raven—p 896
Enteric Fever in Natives of Uganda Protectorate H L Duke—p 897
*Myeloma of Upper Alveolus in Child P B Kittel—p 900
*Four Cases of Herpes Zoster H A Cookson—p 901
Automatic Pipette for Hematologic Purposes A Piney—p 906

**Influence of Tropical Climate on Man**—Eijkman asserts that the pale complexion of the white resident in the tropics is not a sign of anemia nor is there any delay in regeneration of his blood after acute traumatic hemorrhage All things considered, there exists no purely physiologic anemia of hot countries The same parts of the skin that are usually red in the cool climate, with its strong variations of temperature, in course of time assume a pale color when they are almost continually in warm surroundings Nor does the skin of the face form an exception in this respect In the hot littorals, the skin of the native's face is also anemic Eijkman has also investigated the matter of differences in metabolism between white settlers and natives He could not bring

to light any real differences, as regards metabolism and heat production, either between a cool and a hot area, or between the white and the colored race In the given circumstances the heat production per square meter is the same for the two races Therefore, this must also be the case with the heat loss The heat stimulus incites the sweat secretion in the white more than in the colored man, hence he perspires more, and consequently gives off less heat by radiation and convection Yet his sweat secretion far too quickly goes beyond the limits of a rational heat regulation and becomes superfluous That the white sweats more plentifully and produces more urine is not merely the consequence of his taking more water, the causal nexus is rather the reverse As compared with those of the natives, his sweat glands and his kidneys show a greater activity, independent to a great extent of the water intake He must, therefore, drink more water in order to maintain the water content of his body No doubt the greater activity of his kidneys is to be accounted for by the fact that he has to excrete nearly twice as much nitrogen as the native The chief objectively perceptible difference between the two races consists in the function of the skin The colored man is by his pigmentation better protected against the chemical active rays of the sun, and he is not so subject to excessive sweating It appears to Eijkman that the much discussed acclimatization consists rather in an external than an internal process, rather in making, by imitation and custom, a second nature of a manner of living more adapted to the climate than in adequate changes of the bodily organization as such The native's frugality both in respect to food and drink, his, as a rule, calm, resigned view of life his rule of festina lente, would deserve, from a purely sanitary standpoint, to be set as an example to the white sojourner in the tropics, at the risk, however, of his being after all no more in the full sense the pushing power, so necessary for the development of tropical countries The atmosphere of the tropics, often so windless, so leaden, oppresses the colored man less than it does the white, to whom continuous mental and physical strain can become quite a torture

**Tinnitus Aurium with High Blood Pressure**—Fifteen cases cited by Wharry illustrate the frequently occurring combination of tinnitus and high or low blood pressure Apparently severe tinnitus aurium may be due to a high blood pressure alone or to a low blood pressure alone, in which case it is usually found to be bilateral It may be due to an aural lesion combined with a high blood pressure, or with a low blood pressure, in which case the tinnitus is on the side of the lesion The tinnitus may be cured or improved by removing the aural lesion alone, or by reducing the blood pressure to approximately normal, or by doing both Nitroglycerin is of great value as a therapeutic agent in the cases associated with a high blood pressure, as it appears to have a specific effect in relieving the tinnitus

**Myeloma of Alveolus After Trauma**—In the case cited by Kittel, a boy aged 5 years, fell against a wall, knocked out the middle right incisor tooth of the upper jaw and chipped his left middle incisor The injured gum gave no trouble and was believed to have healed, but it was noticed later that the site of the lost tooth was becoming filled with a dark red substance This grew until it became uncomfortable from its size It was painless and did not bleed The growth was excised and proved to be a typical myeloma

**Herpes Zoster an Infectious Disease**—The four cases cited by Cookson are said to support the theory that this disease is really an infective poliomyelitis posterior acuta The persons concerned in this outbreak were all in fairly close contact at their work daily, and it appears that they infected each other At the same time there was a fair amount of chickenpox in the district in which they lived, the outbreak of chickenpox being at its height when these herpes cases occurred These four patients had had chickenpox previously A fifth case occurred in a medical man who, fourteen days after seeing a patient with herpes zoster, manifested an eruption in the supra orbital region He had severe pain and a considerable eruption He had had an attack of herpes zoster twenty years before

## Medical Journal of Australia, Sydney

1 277 300 (March 22) 1924

Intrapleural Pressures in Artificial Pneumothorax Therapy J G Hislop—p 282
*Paraphrenia Systematica with Ten Forms of Hallucinatory Sensation R F Jarrett—p 288
*Gangrene of Feet in Infant F W Hoopman—p 288

SUPPLEMENT

Operation for Exophthalmic Goiter M O G Hughes—p 129
Effect of Treatment in Hyperthyroidism Controlled by Observations of Basal Metabolic Rate H C Trumble—p 131
General Anesthesia in Exophthalmic Goiter F L Davies—p 135
Operation for Exophthalmic Goiter H B Devine—p 137
Empyema H S Newland—p 143
Empyema in Infants and Children H D Stephens—p 146
Floating Cecum as Definite Pathologic Entity F A Hadley—p 151

**Systematic Paraphrenia**—From the standpoint of clinical classification, the case cited by Jarrett would appear to fall most readily into the group designated by Kraepelin as paraphrenia systematica, characterized by the insidious development of a continuously progressive delusion of persecution to which are added later, ideas of exaltation without decay of the personality It is placed midway between dementia paranoides and true paranoia It is separated from the former chiefly on the ground that there is not the same destruction of the personality to justify the appellation dementia and from the latter because hallucinations invariably occur and the delusions tend to be more fantastic Hearing, sight, smell, taste, touch, temperature and pain sense were affected Psychomotor and sexual disturbances were also existent

**Gangrene of Foot in Infant Caused by Cardiac Lesion**—Hoopman reports the case of an infant, aged 2 weeks, which on admission was rather dusky The mucous membranes were slightly cyanosed The abdomen was distended The feet were bluish Seven days later, the baby died There was dry gangrene of the left foot, extending 1 25 cm above the malleoli The toes of the right foot were also gangrenous, but in them the condition was not so far advanced On opening the pericardial sac an early serofibrinous pericarditis was noted The myocardium showed considerable parenchymatous degeneration The foramen ovale was patent to a probe There was a small antemortem thrombus in the right auricular appendix, and on opening the left auricle, the appendix of that side was found to be filled with a large antemortem thrombus In the aorta a large antemortem thrombus obstructed the lumen from just above the origin of the renal arteries to past the bifurcation and extended into the iliac and femoral arteries

## Medical Journal of South Africa, Johannesburg

19 233 268 (March) 1924

*Pyelography as Aid to Diagnosis in Chronic Abdominal Pain E B Fuller—p 236
Ancylostomiasis in Natal and Zululand G A P Ross—p 238
Sterilization of Mental Defect C H Bidwell—p 241
Licensure in South Africa H De Villiers—p 242
New Anesthetic Mask G Dunderdale—p 249

**Pyelography Aid in Diagnosis of Abdominal Pain**—Five cases are cited by Fuller All had, as a main feature, chronic recurring abdominal crises of a painful nature, usually confined to one or the other side but sometimes of a more general distribution and with varying degrees of effect on the general health In nearly every case the appendix had been removed as a possible cause of the condition, in others, the ovary had been removed In one case the gallbladder had been suspected and was opened without result Pyelograms in these cases showed that a kinking or distortion of the ureter was the cause of the abdominal pain In no case was the clinical diagnosis correct Fuller urges routine pyelography in every case of abdominal pain in which the cause of the pain cannot be determined definitely and clearly

## Sei-I-Kwai Medical Journal, Tokyo, Japan

42 1 6 (Dec) 1923

Placenta Toxin Y Okawa—p 1
Antidotal Action of Serum Against Placenta Toxin Y Okawa—p 4
Blood and Serum Changes Caused by Injection of Milk M Nishio—p 5

43 1 13 (Feb) 1924

Psychophysiologic Studies on Typewriting S Uramoto—p 1

## Annales de l'Institut Pasteur, Paris

38 273 370 (April) 1924

Piroplasmosis of Cattle in Algiers E Sergent et al —p 273
Variability of Lactic Fermentation A Lumiere —p 344
Preisz Nocard's Bacillus Le Soudier and J Verge —p 358
*Action of Lysins of Serum E Poyarkoff —p 366

**Action of Lysins of Serum** — Poyarkoff believes that the antibody forms with the antigen a lyophobe compound which is coagulated by the salts of the medium Complement fixation might be represented in the following way The negatively charged antigen attracts the positively charged amboceptor After this it can seize the negatively charged complement The resulting lyophobe compound is coagulated by the salts

## Bulletin de l'Académie de Médecine, Paris

91 521 546 (April 29) 1924

*Diphtheria Immunization L Martin —p 523
*Family Physician and Official Medical Inspector Siredey et al —p 530
*Typhoid Vaccination by Mouth C Achard and S Bloch —p 531
*Frequency of Progressive Paralysis A Marie and V Kohen —p 536
War Tuberculosis G Brouardel —p 540
Individual Isolation of Children in Hospitals A Lesage —p 544

**Diphtheria Immunization** —Martin reports the results of the investigation of the committee on Ramon's anatoxin One injection of 0 5 c c causes a negative Schick test in about 30 per cent of subjects If it is followed by 1 c c in two weeks, the percentage of the immune rises to 88 per cent A third injection, this time of 1 5 c c, after another two weeks' interval immunizes practically everybody (98 5 per cent) The reaction is slight, and marked discomfort occurs only in patients with Schick's pseudoreaction

**Physician and Official Medical Inspector** — The [illegible] adopted a resolution declaring the incompatibility [illegible] duties of the treating physician in contract practice [illegible] of the controlling medical official

**Typhoid Vaccination by Mouth** —Achard and Bloch endeavored to find a test for the efficacy of typhoid vaccination by the mouth Intradermal reactions remained positive Agglutinins were not produced Only the complement fixation test may give a positive response, but it does not always appear early

**Frequency of Progressive Paralysis** — Marie and Kohen [illegible] slight decrease in the number of patients with [illegible] alysis in 1919-1923 as against 1909-1913 Yet they [illegible] only the number of men had decreased (1,343 [illegible] ,843), while the number of female cases has increased They point out that many candidates for progressive paralysis were killed in the war

## Comptes Rendus de la Société de Biologie, Paris

90 909 988 (April 11) 1924 Partial Index

Susceptibility to Experimental Anthrax A Boquet —p 911
Ammoniacal Nitrogen in Yeast A Fernbach and D Triandafil —p 912
Proteolytic Power in Aspergillus G Malfitano and M Catoire —p 914
*Tubercle Bacilli from Filtrate H Durand and A Vaudremer —p 916
*Intermittent Function of the Liver N Fiessinger and H Walter —p 917
Antigen for Serodiagnosis of Syphilis A Jaubert —p 918
Insulin Saves Pancreatectomized Dog E Hedon —p 920
Hypertonic Saline and Hydrating Tendency of Muscle E and H Biancani —p 926
Mechanism of Deglutition R V Caballero —p 927
*Parthenogenesis with Desiccated Sperm J Rostand —p 931
Oxidation Reduction Without Catalyzers Girard and Platard —p 933
*Sex Linked Heredity in Fowls A Pezard and F Caridroit —p 935
*Antibodies in Serum of Tuberculous Children P Armand Delille et al —p 936
Erythrocyte Stroma as Antigen H Diacono —p 939
Blood Alkali Reserve in Gestation Weismann Netter —p 941
*Antagonism of Micro Organisms L Muller —p 944
Water Losses and Calorimetry A K Noyons and W Stricker —p 945
Chronaxia Gage A K Noyons and C D Verrijp —p 948
Experimental Permanent Hyperglycemia Bouckaert and Stricker —p 952
Peptone Shock in Dog H de Waele —p 955
*Secretion of Antithrombin H de Waele and J van de Velde —p 957
Influencing Ripening of Star Fish Eggs A Dalcq —p 958
Flocculation of Diphtheria Toxin by Antitoxin E Renaux —p 964
*Mechanism of Bradycardia C Heymans and A Ladon —p 966
Osmotic Pressure of Serum Proteins P Govaerts —p 969
Action of Roentgen Rays on Spontaneous Mouse Cancers J B Murphy et al —p 972
Action of Roentgen Rays and of Tar Much Alike Murphy and Maisin —p 974
Continent Intestinal Fistulas E Lauwers —p 976
Vaccination Against Herpes M le Fevre de Arric —p 978
Pseudomotor Phenomena and Antidromic Vasodilatation F Bremer and P Rylant —p 982
*Influence of Ions on Growth P Mendeleeff —p 985
*Genesis of Embryonic Tissues P Mendeleeff —p 987

**Return to Type of Filtered Tubercle Bacilli** —Durand and Vaudremer ground 10 c c of pus from a cold abscess with sand and the same volume of physiologic sodium chlorid solution The emulsion was passed through filter paper and through a Chamberland L³ filter, 1 c c of this liquid was inoculated intraperitoneally in two guinea-pigs It produced in one of them an orchitis with typical tubercle bacilli This experiment seems to show that certain elements of tubercle bacilli pass through the filter and can produce tuberculous lesions containing typical tubercle bacilli

**Intermittence in Functional Rhythm of the Pathologic Liver** —Fiessinger and Walter emphasize that intermittence in elimination through the urine of biliary salts, urobilin or glucose of hepatic origin—which is a normal condition—is more pronounced in cases of insufficiency of the liver Intermittent elimination is symptomatic of exhaustion of the liver from functional strain, as from meals, standing or walking A hepatic lesion only exaggerates this physiologic phenomenon of intermittence

**Traumatic Parthenogenesis with Desiccated Sperm** —Rostand reports experiments made with desiccated and pulverized testicles from frogs The slightly moistened powder was inoculated in numerous unfertilized eggs, and the eggs developed in large numbers The results were almost as good as with fresh sperm, even with a 3-year-old powder

**Sex-Linked Heredity in Fowls** —Pezard and Caridroit conclude that their hormone theory explains sex-linked heredity better than Morgan's chromosome theory

**Action of Antigen on Serum of Tuberculous Children** — Armand-Delille, Duhamel and Marty confirm the assertion of Boquet and Negre that injections of their methyl alcohol antigen produce a progressive and often considerable increase of antibodies in the serum of tuberculous children

**Aldehyd in the Phenomena of Microbian Antagonism** — Muller investigated which bacteria tolerate formaldehyd best Cultures of different strains of bacteria proved that colon bacilli and lactic acid bacilli display the greatest resistance to this very active antiseptic, which is a normal product of their metabolism

**Induced Secretion of Antithrombin by Excitation of Cyon's Nerve** —De Waele and van de Velde say that excitation of Cyon's nerve in normal rabbits does not affect the coagulability of the blood But such excitation during inanition produces a notable diminution, possibly even arresting coagulation entirely The explanation is that three favorable conditions exist during inanition low abdominal pressure, good oxygenation of the blood and urinary acidity of $p_H$ 5 5 to 5

**Mechanism of Bradycardia** — Heymans and Ladon conclude that epinephrin has no direct action on the pneumogastric center except that, when large doses are used, they induce anemia of the center Normally, bradycardia from hypertension or epinephrin is of reflex, not of central, origin In case of hyperexcitability of the pneumogastric center, epinephrin or hypertension produces bradycardia by direct action on the center

**Action of Metal Ions on Growth of Tissue in Vitro** —Mendeleeff emphasizes that abundance of calcium ions seems to stimulate the growth of embryonal tissues

**Placenta in Genesis of Embryonal Tissues in Vivo** —Mendeleeff says his experiments prove that the substance which stimulates growth [illegible] embryonal tissues is in the placenta



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Congenital Malpositions of the Uterus P Descomps —p 529
Retention of Menses A Siredey —p 532
Conservative Treatment of Salpingitis Deniker —p 537
Bartholinitis A Bergeret and T Fontaine —p 543
Proliferating Ovarian Cysts H Duclaux —p 548
Present Status of Drugs in Neuropsychiatry P Courbon Supplement —pp 1 32

**Direct Treatment with Lactic Acid Bacilli in Puerperal Infection**—Chirie extols the use of pure cultures of lactic acid bacilli introduced into the vagina and uterus The lactic acid generated stops the development of streptococci This culture induces also intensive local leukocytosis, a very important fact in healing processes Bacteriologic examination showed rapid disappearance of streptococci in the uterine discharge Chirie uses this vaccine therapy in pregnancy vaginitis, in protracted labor with ruptured membranes, and after delivery in cases of incision of the cervix, or application of forceps, or lacerations This lactic acid-bacillus therapy is absolutely harmless, and is extremely useful in disinfection of the genital organs, especially in puerperal infections

**Mercuric Cyanid in Pregnancy** — Sauphar emphasizes the advantages of mercuric cyanid for pregnant syphilitic women, especially those with albuminuria It contains 80 per cent mercury, and is eliminated extremely rapidly and completely in twenty-four hours It has a remarkable diuretic action, and the edema disappears and the patient loses weight The only method is by daily intravenous injections to a total of twenty or thirty injections

## Paris Medical

377 392 (April 26) 1924

Iodized Oil in Radiologic Practice J Forestier —p 377
*Valve Pleurotomy J Tourneix —p 384
Vagosympathetic Tonus in Asthma F Claude —p 387

**Valve Pleurotomy**—Tourneix gives an illustrated description of his method of draining acute purulent pleuritis with a broad sheet of rubber tissue slipped into the opening in the ninth or tenth interspace The rubber fits tight across the opening and is fastened to the intercostal muscles or a rib, the outer end hangs out like a flat curtain During expiration, pus oozes out along the rubber, but during inspiration the rubber is drawn in, closing the opening air-tight In the fifteen cases in which this treatment was applied, from eight to sixty days after the first symptoms, all the patients were dismissed in good condition in from thirty to sixty-three days, an average of thirty-five The earlier the drainage was begun, the more rapid the cure

## Presse Médicale, Paris

32 341 352 (April 19) 1924

*Action of Insulin M Labbe —p 341
*Atropin in Spastic Conditions C Abadie —p 341
Fractional Diuresis Test P L Violle —p 343
*Operation for Double Hernia A Tzaico —p 344
Iodized Oil in Radioscopy of Air Passages J Mouzon —p 349

**Comparison of Action of Insulin on Glycosuria and on Acidosis**—Labbe emphasizes that insulin acts with different efficiency on acidosis and on glycosuria in diabetes Although acidosis appears in cases with pronounced glycosuria, and both these metabolic disturbances are due to insufficiency of pancreatic secretion, yet they are independent of each other His conclusion from his investigations is that insulin is effectual in cases of acidosis and consequently in diabetic coma, while glycosuria is influenced more by dietetic measures

**Atropin for Diagnosis and Treatment of Disturbances from Vascular Spasm**—Abadie refers among other instances, to a case reported by Bard in which disturbance of vision and local asphyxia of the extremities had preceded and accompanied angina pectoris All these phenomena are due to spasms of blood vessels Abadie advises, in order to recognize if atrophy of the optic nerve is caused by a shutting off of the blood supply from vascular spasm or by disease of the optic disk to inject into the back of the orbit 1 mg of atropin If the atrophy is of spastic origin, the visual field enlarges and the sight improves within half an hour after the injection Otherwise, the injection is without effect Atropin is not only a valuable help in diagnosis, but is also extremely useful in treatment All his patients with tabetic atrophy of the optic nerve have been improved by these orbital injections of atropin

**Myoplastic Herniotomy for Double Hernia**—Tzaico uses the pectineal muscle in a plastic operation for radical cure of a double hernia, inguinal and femoral, on the same side He extols its advantages and gives nine illustrations of the technic

32 353 364 (April 23) 1924

*Insulin with Maximum of Carbohydrates Chabanier et al —p 353
Treatment of Varices by Direct Injections Bazelis —p 358

**Insulin Treatment of Diabetes** — Chabanier and his co-workers contend that insulin must not be regarded as a treatment for emergencies only, or as a mere adjuvant to a severely restricted diet It should be given in a manner to transform the diabetic into a normal person, with the maximum of carbodydrates in the diet which he can tolerate This has to be determined in each individual case as the kidney threshold for elimination of sugar varies in different persons and in the same person at different times They apply courses of insulin treatment on the same principles as syphilis is treated To determine the amount of carbohydrates allowable for each patient, they test the renal diabetic element Hyperglycemia is not the only cause of glycosuria, these two are not even parallel Two patients with equal glycemia may have a different quantity of glucose in the urine This means that the barrier to passage of sugar is not the same in different kidneys The higher the threshold, the more pronounced and more rapid is the effect of insulin, and a larger amount of carbohydrates may be allowed the patient They determine further, the relation between a given intake of carbohydrates and the sugar content of the urine thereafter, comparing the glycemia, fasting, with the glycosuria The greater the ratio the larger the quantity of carbohydrates that can be allowed Daily analysis is made during six days before the systematic insulin treatment is started, determining also the ratio between the acetone bodies and the quantity of fats and proteins in the test diet The injections are intramuscular, the treatment has to be uninterrupted and of long duration, prolonged at least fifteen days after the complete disappearance of glycosuria Each injection has to be followed immediately by a meal containing carbohydrates The insulin is administered in large doses, corresponding to 80 to 160 American units daily, in 2 or 3 injections In cases of coma the dose is greatly increased The advantages of treatment on this basis, as evidenced in their 102 patients thus treated are the rapid disappearance of acetonuria even on 120 gm of proteins and 120 gm of fat, the rapid gain in weight and improvement of general condition, and greater security against disturbances from hypoglycemia They extol the insulin of their own make, one unit corresponding to eight American units The injections they say, are painless and without any local complications

## Revue Médicale de la Suisse Romande, Geneva

44 209 272 (April) 1924

*A Forgotten Malady Phrenitis N Betchov —p 209
Experiences with Anesthesia E Martin —p 215
Pathogenesis of Lymphogranuloma A Grumbach —p 219
*Tumor of Islands of Langerhans H Schneider —p 222
Case of Oppenheim's Disease Gautier and Thevenaz —p 239
Drug Treatment of Hyperchlorhydria R Guillermin —p 243
Venereal Disease in Switzerland J Wintsch —p 247
*Instantaneous Cure of Sciatica Jaquerod —p 253
Functional Transplantation of the Eye in Mammals Koppanyi —p 254

**Diaphragmitis**—Betchov explains that 'phrenitis" has been absorbed into the frame of serositis and is now labeled pleuritis or peritonitis Bilateral pain speaks against pleurisy Rheumatism of the diaphragm is usually promptly amenable to salicylates consequently in dubious cases of pain in the diaphragm region it is wise to exclude rheumatism, to start with by the failure of salicylates to relieve

**Langerhans' Islands Tumor**—Schneider describes what she calls an insuloma necropsy surprises in an elderly man and a woman In the fifteen cases of such benign tumors she has found on record they were all small and only two of the patients were diabetics and these had the smallest insulomas

She is inclined to regard them as a compensating hypertrophy in the predisposed

**Instantaneous Cure of Sciatica**—Jaquerod states that the simple procedure he reports has cured his own sciatica on various occasions and likewise sciatica in others He was horseback when seized with severe recurring sciatica, and vely he stiffened his leg, the toes in the stirrup, the shed down as far as possible, while twisting the leg in supination, twisting it from heel to hip, keeping the whole is stiff as possible, the heel down At the same time the upper part of the body was straightened up, twisting the torso inversely to the movement of the leg, looking back over the shoulder of the side affected, while keeping the leg stiff He studied this set of movements, theorizing to explain the mechanism of the immediate arrest of the sciatica pain It can be done reclining on a hard surface, bracing the heel against the foot of the bed The entire limb is extended to the utmost and twisted from hip to heel in one direction while the trunk is extended and twisted in the opposite direction The relief is sometimes as sudden as with reduction of a dislocated shoulder Of course, he adds, there are different kinds of sciatica, but this simple maneuver is worth a trial in any kind

## Schweizerische medizinische Wochenschrift, Basel

**54** 385-404 (April 24) 1924

*Cancer and Pregnancy W Odermatt—p 385
*Goiter in Swiss Recruits O Stiner—p 391
Delirium in Heart Disease R Massini—p 397
The Hot Springs of Baden (Switzerland) Markwalder—p 397

**Cancer and Pregnancy**—Odermatt concludes from his nineteen cases that pregnancy has an unfavorable significance for precancer conditions as well as for the prognosis after operations for cancer of the breast Only one of his patients, with an early operation, has survived

**Goiter in Swiss Recruits**—Stiner publishes almost complete statistics and geographic charts on the high incidence of goiter among the Swiss recruits He produced scurvy in guinea-pigs by feeding them with autoclaved vegetables All of these animals had goiter and caries of the teeth He believes that the lack of vitamins in the food in many mountain valleys—especially in winter—accounts for the prevalence of goiter The extremely fine white flour used may also have some etiologic relation to it

## Policlinico, Rome

**31** 177-232 (April 15) 1924 Surgical Section

*Nitrogen Metabolism in Tuberculosis of the Kidney Agrifoglio—p 177
Arteriovenous Aneurysm of the Femoral C Arrigoni—p 194
*Sarcoma of Forearm A L Di Bernardo—p 201
Hernia of Bladder Diverticulum A Odasso—p 211
Teratoma in Sacrococcygeal Region Necropsy G Zampi—p 222

**Nitrogen Metabolism in Renal Tuberculosis**—Agrifoglio lists the findings with micromethods in eleven cases of tuberculous kidneys and two healthy controls With unilateral lesions the nitrogen content of the blood averaged 0.130 per cent, the range, 0.117 to 0.154 With 0.200 per cent both kidneys were always found affected The residual nitrogen ranged from 0.820 to 1.490 per thousand in the bilateral cases, and from 0.370 to 0.510 per thousand in the unilateral The high figures for the nitrogen output persisted high after nephrectomy but gradually subsided in the course of four to six months, confirming that the kidney left was functionally capable

**Sarcoma of Forearm**—After resection of the inferior epiphysis of both radius and ulna in the young woman, Di Bernardo filled the gap in each bone by a segment from the fibula The segment was 12 cm long, and was cut in two parts to fit the gaps The autografts healed perfectly in place, new-formed periosteum bridging the short space between the stumps and the implants

## Riforma Medica, Naples

**40** 361-384 (April 21) 1924

*Formaldehyd Serum Reaction A Dazzi—p 361
*Placenta Extracts A Ceresoli—p 363
Insulin Treatment of Diabetes D Maestrini et al—p 365
Slight Attacks Resembling Epilepsy in Children Battigelli—p 367

**Formaldehyd Serum Reaction**—Dazzi found considerable parallelism between Klausner's reaction with distilled water and Gate and Papacostas' gelatinization of the serum with formaldehyd Both reactions were very frequent in syphilis, tuberculosis, malignant tumors and epidemic encephalitis

**Placenta Extracts**—Ceresoli extracted placentas, successively, with physiologic sodium chlorid solution, 96 per cent alcohol, ether, acetone, and chloroform From twenty to thirty injections of the extracts were given at four day intervals to young animals The chloroform extract was inactive The other extracts induced a marked hypertrophy of the uterus and vagina (up to six or eight-fold) The ovaries and mammary glands were a little larger than in the controls The general growth of the animal was stimulated at first, then inhibited The action is not due to lipoids alone

## Anales de la Facultad de Medicina, Montevideo

**9** 85-166 (Feb) 1924

*Surgery of Blood Vessels Domingo Prat—p 85
*Homogenization of Sputum Juan Torrazza—p 126
*Acquired Syphilis in Children M A Jaureguy—p 136
Congenital Absence of Both Tibias A Rodriguez Castro and V Escardo Anaya—p 148

**Surgery of Blood Vessels**—Prat analyzes the technic and outcome in thirty-seven cases of operations on large vessels in Lamas' service The popliteal artery seems to bear operations particularly well, and the sequelae of resection of arteriovenous aneurysms were slight

**Homogenization of Sputum**—Torrazza declares that nothing can compete with formaldehyd for this purpose He freezes the sputum As a fluid freezes, the impurities are crowded out into a certain stratum of the resulting ice By freezing the fluid sputum, the bacteria are thus concentrated, as it were, in the heart of the resulting block of ice by the physical laws regulating freezing, without the necessity for centrifugation By using carbon tetrachlorid as a separator, separation is accelerated, and the test tube is then placed in the refrigerating mixture of salt and brine

**Acquired Syphilis in Children**—Jaureguy discusses eight cases The primary chancre is often on the lip, and a satellite enlarged gland always gives the clue, even after the chancre has healed He remarks that in Montevideo in the last two years, 50 per cent of the syphilitics taking treatment are cases of recent infection This shows that the prophylactic measures in vogue are inadequate He advocates bismuth in treatment of children as it can be given by intramuscular injection, while its action is prompt and apparently effectual

## Brazil-Medico, Rio de Janeiro

**1** 183-198 (April 5) 1924

*Familial Paratyphoid Epidemic Amaury de Medeiros—p 183
*Epidural Anesthesia Barros Lima et al—p 186

**Paratyphoid B Epidemic**—The entire undernourished family of six members presented the same clinical picture, eighteen days after another member had returned home, sick, from another city, dying the tenth day The paratyphoid B bacillus was cultivated from the blood or was agglutinated by the serum of all the seven Tests of the drinking water were negative

**Epidural Anesthesia**—The anesthesia was complete in forty-two of the fifty-two cases described, and very nearly complete in the others Most of the operations were for prostatectomy, and the injection was made on the seated patient The operation was begun in ten minutes This technic was found peculiarly advantageous for operations on the anus, perineum, lower rectum and external genitals

**1** 199-214 (April 12) 1924

*Peritonitis and Polyneuritis of Syphilitic Origin Cardoso Fonte—p 199
Systolic Murmur in Aortic Insufficiency J L de Mesquita—p 203
Treatment of Chalazion E Campos—p 204
Ophthalmology in France in 1921-1922 Monbrun and Mascarenhas de Souza—p 205

**Peritonitis and Polyneuritis of Syphilitic Origin**—In Cardoso Fonte's case the abdominal pains and profuse effusion could not be traced to any factor except the old syphilis in the man of 40 Under vigorous mercurial treat

ment, with iodid, the abdominal symptoms subsided, but intensely painful symmetrical polyneuritis followed There was nothing else to suggest a toxic action from mercury as the cause of this polyneuritis, and he incriminates the syphilis for this also

1 215 228 (April 19) 1924

*Local Treatment of Puerperal Infection P Figueira de Mello —p 215
Influenza on Shipboard J Drummond —p 218
Case of Ulcerating Blepharitis E Campos —p 219
Surgery in France in 1921 1922 Guelfucci —p 220

**Local Treatment of Puerperal Infection** —Figueira de Mello extols the advantages of an antiseptic powder for this purpose which is a mixture of chlorinated lime and sodium bicarbonate He protests against the too often hopeless attitude in grave cases

## Gaceta Medica de Mexico, Mexico City

55 687 814 (Dec ) 1923

*Respiration at High Altitudes J J Izquierdo —p 687
*Extinction of Foci of Plague M S Iglesias —p 713
Treatment of Ascites of Hepatic Origin F Bulman —p 723
Examination of Neurologic Patient A A Loaeza —p 733
Tests for Glucose in Urine and Blood J M Noriega —p 740
Penal Code Forbids Experiments on Human Beings I Castillo Najera —p 747
Glaucomatous Disturbance from Rapid Swelling of Senile Cataract J de Jesus Gonzalez —p 752
Present Status of Forceps in Obstetrics N Leon —p 757
Strictures in Bulbar Region of Urethra German Diaz Lombardo —p 762
Surgical Treatment of Convergent Squint *A F Alonso —p 765
Bacteriology and Treatment of Alveolar Pyorrhea T G Perrin —p 777
The Work of the Public Health Service in the United States in Combating Venereal Disease C C Pierce —p 783

**Maximum Respiratory Output** —Izquierdo found the maximum 4 liters in 200 healthy persons between 16 and 40, at the City of Mexico, altitude 2,240 meters This is exactly twice the output found in France The range was from 2,500 to 5,000 c c The development of the chest and the lung capacity did not seem to modify it

**Plague** —Iglesias declares that no instance is known of plague having been conveyed by land traffic in bales or other goods containing rats Rats will not stay in freight that is handled much and jolted There is no necessity for interfering with land traffic and antagonizing the public For the same reason, he advises isolation of the sick in their homes rather than compelling them to go to a hospital It is better to have all the sick isolated after a fashion than to have a few rigorously isolated and the rest hidden away from the authorities by their friends

## Deutsche medizinische Wochenschrift, Leipzig

50 527 560 (April 25) 1924

*Vitamin B Deficiency and Beriberi T Ogata et al —p 527
*Analgesic Action of Strontium W Alwens —p 529
Vagotonia and Sympathicotonia Veil —p 532 Begun p 511
Diagnosis of Typhoid Fever H Lohr —p 536
Criticism of Rabbit Unit for Insulin E Laqueur —p 537
Action of Glycokinin A Gottschalk —p 538
Persistent Pregnancy Nephritis Schilling and Grobel —p 540
Fat for Diabetics R Uhlmann —p 541
Ophthalmology Triebenstein —p 542
Protection of Maternity in Russia N Semaschko —p 545 Conc n p 581

**Comparison of Vitamin B Deficiency with Beriberi** —Ogata with four collaborators publish the results of their investigations on the differences between human beriberi (*kakke*) and the experimental avitaminosis produced in pigeons fed on polished rice Ataxia and disturbances of the sensorium do not occur in human beriberi Severe circulatory disturbances with acceleration of the pulse, hypertrophy of the heart, stasis and edemas, which are characteristic for beriberi are never found in these animals Lymphopenia and atrophy of lymphatic glands are very characteristic in animals The lymphatic system is hypertrophied in beriberi A hemorrhagic diathesis develops in animals but not in beriberi They conclude that, besides a deficiency in vitamin B, other important factors are responsible for the human beriberi

**Analgesic Action of Strontium** —Alwens had very good results with strontium salts in starvation osteopathies The pains were also favorably influenced This induced Boruttau and Grassheim to study the analgesic effects of the metal It does not anesthetize as thoroughly as magnesium Intravenous injections of 10 c c of a 10 to 20 per cent solution of strontium bromid gave very good results in gastric crises, neuritis, painful cancer metastases in bones, chronic arthritis and in the spasms of multiple sclerosis

**Action of Glycokinin** —Gottschalk found that glycokinin (extract, resembling insulin, from vegetables) increases the formation of acetaldehyd by surviving liver cells from warm-blooded animals

**Persistent Pregnancy Nephritis** —Schilling and Gröbel observed a case of typical pregnancy nephrosis (degenerative affection) with low pressure, 0 032 per cent of nonprotein nitrogen in the blood, and 1 per cent albumin in the urine The patient died, nine weeks after delivery, in an eclamptic state

## Klinische Wochenschrift, Berlin

3 705 768 (April 22) 1924

Influence of Kant s Ideas in Natural Science Ziehen —p 705
*Electrolytes in the Organism F Kraus et al —p 707
*Abdominal Pain F Bruning —p 710
*Acetaldehyd in Metabolism A Gottschalk —p 713
*Calcium Metabolism and Action W H Jansen —p 715
*Trophic Ulcers W Lehmann —p 719
*Insulin Treatment C von Noorden and S Isaac —p 720
Bacterial Synergism H Kammerer —p 723
*Physiology of Periarterial Nerves H Dennig —p 727
*Periarterial Sympathectomy O Wiedhopf —p 728
Idem F W Kaess —p 729
*Thrombopenia and Aleukia S Seeliger —p 731
*Distribution of Electrolytes F Kraus et al —p 735
*Electrolytes After Food Intake E Wollheim —p 736
Electrolytes and Oxygen Metabolism W Arnoldi —p 737
Suprarenal Hemorrhages A Brasser —p 738
Treatment of Pancreatitis L Arnsperger —p 739
Typhoid Epidemic in Celle Sorge —p 742
Typhoid Epidemic in Alfeld W Gottstein —p 743
Insulin H Staub —p 746
Micromethod for Sedimentation Test Linzenmeier and Raunert —p 766

**Electrolytes in the Organism** —Kraus, Zondek, Arnoldi and Wollheim give a survey of their views on the significance of electrolytes in the body The ions play an important part in low organisms before the vegetative nervous system develops The predominance of potassium produces effects identical with those from vagus stimulation, while calcium has the action of the sympathetic They increase to a maximum or reduce to a minimum the existing functions of the cells, for example, lactic acid production in muscles The nerve impulse changes, according to their views, primarily, the constellation of electrolytes This, in turn, causes changes of hydration which is already a phenomenon of action of the cell This brings, for instance, the glycogen into contact with the ferment, which splits it into lactic acid Electrolytes influence the permeability of the surface systems and the electric charge of proteins They can accelerate or delay the fatigue of muscles Their mutual relation determines the basic attitude of the cell to stimuli, and is probably important for the constitutional peculiarities of the whole organism Digitalis does not act without calcium and the muscle action of guanidin is inhibited by it The examination of the body fluids does not give the correct idea about the distribution of ions though there are differences Diminution of blood calcium is not the cause of tetany—just as azotemia is not a cause of nephritis

**Abdominal Pain** —While not denying the existence of Head s zones, Brüning emphasizes the fact that the pain in abdominal affections is localized deep in the epigastrium and not in the skin Its site corresponds to the celiac plexus Only when the parietal peritoneum is affected, is the pain localized correctly The upper spinal segments for the parietal peritoneum begin in the thoracic part of the cord and may be irritated directly in pulmonary affections Hence, the frequent abdominal pain in pneumonia in children which has led to many harmful laparotomies The pain from distention of the bowel is usually localized correctly because of the mechanical irritation of the parietal peritoneum He mentions Läwen's diagnostically valuable investigations with paravertebral injections of procain Pains originating in the duodenum and pyloric region disappear after infiltration of the sixth to the eighth dorsal segment on the right side

Affections of the lesser curvature require supplementary injections on the left side The gallbladder, the bile duct and probably the liver become painless after anesthetizing the right ninth to eleventh thoracic nerves

**Acetaldehyd in Metabolism**—Gottschalk reviews the work of Neuberg's school on the formation of acetaldehyd in metabolism Glycogen seems to be one of its important sources Lack of oxygen prevents its formation except from pyrotartaric acid

**Calcium Metabolism and Action**—Jansen was unable to increase, for any length of time, the normal calcium level of the blood Subnormal concentrations were well influenced by administration of calcium salts in any way

**Trophic Ulcers**—Lehmann observed hyperthermia of the entire lower extremity after freezing of the external popliteal nerve, just as it was observed after excision of the neuroma on the central end of a divided nerve He believes that this hyperemia accounts for the healing of ulcers after extirpation of the neuroma

**Insulin Treatment**—Von Noorden and Isaac recommend periods of five or six days with from 120 to 150 gm proteins, much fat and no carbohydrates Small doses of insulin are sufficient to prevent acidosis The period is followed by a carbohydrate day It sometimes happens that the patient suddenly becomes comparatively refractory to the action of insulin, requiring possibly threefold doses with the same diet They interrupt the treatment in these cases for a few weeks

**Physiology of Periarterial Nerves**—Dennig found no vasodilator fibers nor sensory nerves in the adventitia of femoral arteries of dogs

**Periarterial Sympathectomy**—Wiedhopf compares the effects of periarterial sympathectomy on the circulation with those from anesthetization of nerves Anesthesia of the brachial plexus produces the same changes in the arm (vasodilatation, hyperthermia) as extirpation of the cervical sympathetic Such changes do not occur after extirpation of the adventitia The nerves for the vessels are contained in the mixed nerves and cannot be interrupted, except for the local segment, by Leriche's operation

**Thrombopenia and Aleukia**—Seeliger found in essential thrombopenia in only one half of the extirpated spleens an increased number of blood platelets This may signify an increased phagocytosis In two necropsies he confirmed the increase in the number of megakaryocytes in the bone marrow Yet these cells were evidently affected The protoplasm was without granules from which platelets could form

**Distribution of Electrolytes**—Kraus, Wollheim and Zondek found more water in the musculature of the auricle of the frog heart than in the ventricle In spite of this, it contains more potassium and calcium The susceptibility of the ventricle for these ions is, according to Zondek and Jacobs, greater than that of the auricle The irritated pneumogastric nerve contains them in greater quantity than does the control

**Electrolytes After Food Intake**—Wollheim found a slight increase of the potassium-calcium ratio in the blood of the portal vein during alimentary leukocytosis in dogs After subdiaphragmatic resection of the vagi, leukopenia and inverse shifting of the ratio were observed

**3** 769 816 (April 29) 1924

*Derangement in Hormone Function R Ehrström—p 769
Constitutional Differences in Infants C Coerper—p 772
*Standard Roentgen Unit H Kustner—p 774
*Pituitary Secretion P Trendelenburg—p 777
*Tuberculosis and Nutrition H Selter—p 779
*Intraperitoneal Blood Infusion H Opitz—p 784
*Blood Pressure in Different Areas P Fischer—p 784
Infected Abortion Joseph and Sachs—p 786
Treatment of Claw Foot R Scherb—p 787
Determination of Albumin and Globulin Knipping and Kowitz—p 788
Specific Viscosity of Serum F Rietti—p 788
"Percussion and Auscultation" Froschels and Stockert—p 788
*Glycolytic Action of Cancer A Braunstein—p 788
*Action of Calcium F Gunther and W Heubner—p 789
Encephalitis of Rabbits E Illert and F Jahnel—p 790
Action of Serum on Heart A Tscherkess—p 790
Penetrating Ulcer of Greater Curvature Sommer—p 791
*Stomach Function Tests L R Grote—p 792
Sterilization of Defectives K Bonhoeffer—p 798
"Butter Flour Mixture" in Diabetic Diet Offenbacher and Uhlmann—p 815

**Derangement of Hormone Function**—Ehrstrom believes that certain poisons act by binding hormones and paralyzing their action It seems probable that the destruction and new formation of hemoglobin, which is estimated at 12.5 gm daily, is regulated by a hormone Extremely small quantities of Seyderhelm's oestrin (0.08 mg) kill a horse Still smaller doses produce a grave anemia, which may be due to paralysis of a hormone which regulates the erythropoiesis

**Standard Roentgen Dose**—Kustner reports on the first results of standardization of the roentgen dose Behnken was able to obtain an absolute physical measure of the ionization of air under a pressure of ten atmospheres The fundamental unit dose is defined in clear physical terms, and is called 1 roentgen (R) This solution of the problem of an absolute roentgen unit allows a testing of dosimeters Kienbock's quantimeter gives differences up to 89 per cent which inevitably would sometimes entail burns The standard apparatus is to be kept at Gottingen

**Pituitary Secretion**—Trendelenburg tested with Deusch and Miura the action of cerebrospinal fluid from cats on the surviving uterus of rats and guinea-pigs The fluid produced strong contractions even when diluted fivefold Its activity was much lowered in a few hours after extirpation of the pituitary gland Thus he confirms Dixon's results in every respect except in the strength of the actions One c.c. of cerebrospinal fluid in his experiments corresponded only to $\frac{1}{35,000}$ mg of fresh tissue of the posterior lobe (against Dixon's 0.2-2 mg)

**Tuberculosis and Nutrition**—Selter discusses statistics of tuberculosis in the years 1913-1922 He believes that sufficient food for the people is the most important weapon in the campaign against tuberculosis

**Intraperitoneal Blood Infusion**—Opitz recommends intraperitoneal infusions of about 150 c.c. of defibrinated blood in anemic infants The corpuscles are well resorbed

**Blood Pressure in Different Areas**—Fischer found differences of blood pressure in the arms even when they were measured simultaneously There was no constant predominance of the same side in the same individual Patients with hypertension showed especially high differences

**Glycolytic Action of Cancer**—Braunstein observed an increased sugar tolerance in diabetics with cancer The glycosuria reappeared after extirpation of the tumor He published in 1921, in a Russian journal, his experiments on the glycolytic action of cancer cells in vitro

**Action of Calcium**—Gunther and Heubner found in experiments on perfused frog hearts that not only calcium ions, but also nonionized calcium molecules, have the specific action The significance of the actual concentration of calcium ions is overestimated

**Stomach Function Tests.**—Grote reviews the stomach function tests He confirms the importance of eosinophils in the stomach contents, though they are not pathognomonic, they warrant a suspicion of cancer

## Medizinische Klinik, Berlin

**20** 555-588 (April 27) 1924

Growth of Cancers F Blumenthal—p 555
*Insufflation of Fallopian Tubes A Duhrssen—p 558
*Treatment After Operations on the Stomach G Singer—p 559 Conc'n
*Nicotin and Duodenal Syndrome F Wagner—p 562
*Diagnosis of Syphilitic Arthritis F Eisler—p 565
Tumors of the Trachea G Claus—p 567
Paratyphoid B Infection K Gaube—p 569
Bismuth Treatment in Syphilis W Engelhardt—p 570
*Blood Cholesterol in Arteriosclerosis Pribram and Klein—p 572
Practical Gynecology E Runge—p 574 Cont'n
Some Rare Affections of the Skin F Pinkus—p 576
Social Insurance Wreschner—p 586
Legal Aspects of Medicine F Thomas—p 587 Conc'n

**Insufflation of Fallopian Tubes**—Duhrssen has no objections to insufflation of the tubes during a laparotomy for determination of the site of the obstacle, or after a salpingostomy to keep the tube open Otherwise, the danger of rupturing an ectopic pregnancy must not be underestimated

**Treatment After Operations on the Stomach**—Singer gives rectal infusions of Ringer's solution after operations on the stomach Lavages of the stomach are necessary in persisting pains and vomiting Ice pills only fill the stomach with water and prolong the vomiting The heart should be treated preliminary to the operation Raising the pelvis high in the ventral recumbent position may cure an arteriomesenteric occlusion The best treatment of postoperative peptic ulcer in the jejunum consists in lying on the right side during, and for an hour after, the meal The duodenum is physiologically stimulated in this position and the bile precipitates the pepsin

**Nicotin and Duodenal Syndrome**—Wagner insists that all the subjective and roentgenologic signs of duodenal ulcer can be produced by excessive use of tobacco

**Diagnosis of Syphilitic Arthritis**—Eisler considers syphilitic periosteitis, with deposits of bone on the diaphysis and lack of atrophy, as very valuable signs of syphilitic arthritis Some of the affected joints show no roentgenologic changes The success of the treatment decides the differential diagnosis

**Blood Cholesterol in Arteriosclerosis**—Pribram and Klein found an increase in cholesterol in the serum in the large majority of patients with hypertension

## Munchener medizinische Wochenschrift, Munich

71 491 538 (April 18) 1924

*Immunity by Fertilization A Bier—p 491
*Action and Volume of Muscles F Schultze—p 494
*Digitalis and the Blood Vessels G Ganter—p 497
*Hypertonic Solutions and Diuresis E Becher—p 499
Transportation and Metabolism of Body Elements Arnoldi—p 502
*Function Tests L R Grote—p 504
One Hundred Gastroscopies H Hohlweg—p 506
Dermatosis and Diathesis H W Siemens—p 508
*Trophic Skin Lesions V Dumpert—p 511
Function and Bone Growth W Kohlrausch—p 513
*Intravenous Treatment of Varices K Linser—p 515
Appliance for Flatfoot H Jordan—p 516
*Malignant Roentgen Ulcers G Tillmann—p 516
Fibrous Pericarditis R Bittrolff—p 517
The Kant Tercentennial K E Ranke—p 519
Disturbances of Metabolism F Umber—p 524
Development of Body and Mind in Children H Paull—p 526

**Immunity by Fertilization**—Bier grows, every year, large numbers of trees for his forests His observations on the vitality of the seeds convinced him that fertilization immunizes the cell against infection and autolysis He believes that immunologic research should start at the fertilization processes

**Action and Volume of Muscles**—Schultze reviews critically the relation between the functioning of muscles and their hypertrophy and atrophy He points out that the superior auricularis muscle is not in action in the majority of subjects, and yet it does not atrophy

**Digitalis and the Blood Vessels**—Ganter found after strophanthin injections a decrease in the tonus of many of the blood vessels, especially the arteries of the skin and intestines, and of the tonus of the intestinal musculature Instillation of the drug into the eye decreased accommodation He concludes that the digitalis type of drugs act directly on the plain muscles The opposite results obtained by other authors in experimental research are due to the large amounts of morphin and strophanthin they used

**Hypertonic Solutions and Diuresis**—Becher studied the diuresis after injections of hypertonic solutions of salts, urea, its derivatives and sugars Hydremia occurred only when the solutions were injected intravenously Even then it was not constant with urea and especially with trimethylurea, which is easily soluble in lipoids The less lipoid-soluble the substance, the more pronounced as a rule, the hydremia, which may be due to osmosis The diuretic action of subcutaneous injections is proportional to their lipoid solubility A lowering of the viscosity of blood cannot account for the diuresis The elimination of nitrogen was not inhibited by the elimination of sodium chlorid in healthy animals Urea, phosphates, sulphates but not sodium nitrate, lower the elimination of sodium chlorid Diuresis eliminates the diuretic substance water and sodium chlorid in larger amounts, the concentration of the salt in the urine getting nearer to its plasma level Nitrogen is also slightly increased Creatinin, uric acid, sulphates and phosphates are not increased

**Function Tests**—Grote admits that many of the functional tests enable us to determine a partial function Extremely few can however, be used for estimation of the actual value of the organ for the whole organism The overproduction of such methods—especially chromodiagnosis—is sufficient evidence of their low value He demonstrates the small significance of acidity of the stomach for the general nutrition

**Trophic Skin Lesions**—Dumpert shows that many of the alleged trophic changes of the skin after affections of the nervous system are due to mechanical causes Hypertrichosis and changes in the nails are caused by the absence of rubbing

**Intravenous Treatment of Varices**—Linser treats varicose veins by direct injection into the vein of 2 cc of a 30 per cent solution of alcohol or from 5 to 10 cc of a 15 or 20 per cent solution of sodium chlorid This injures the intima and causes a solid thrombosis Consequently he saw no embolism, although he made the injections frequently in working patients

**Malignant Roentgen Ulcers**—Tillmann used Läwen's intracutaneous injection of the patient's own blood around a grave roentgen-ray ulcer The results were excellent The fluid has to be injected to form a complete ring around the ulcer, at a distance of about an inch from the lesion

## Wiener klinische Wochenschrift, Vienna

37 407 430 (April 24) 1924

*Sudden Natural Death A Haberda—p 407
*Drainage of Peritoneal Cavity L Schonbauer—p 412
*Etiology of Erythema Nodosum B Coglievina—p 413
Uterine Fibroids K Fleischmann—p 414
Syphilis in Maternity Hospitals E Klaften—p 417
Cancer of Thyroid G Holzknecht—p 419
Semeiologic Significance of Diaphragm Hitzenberger Supplement—pp 1 20

**Sudden Natural Death**—Haberda reviews the results of necropsies performed in ten years (1910-1919) on 11,000 persons who had died suddenly In 125 the fatality proved to be due to poisoning It was surprising to find lobar pneumonia and meningitis in subjects who were not confined to bed Affections of the heart and aorta were very frequent Brain tumors were found in thirty-one necropsies

**Drainage of Peritoneal Cavity**—Schonbauer found the peritoneal exudate, sometimes even twenty-four or thirty hours after a perforation of the appendix, sterile Drainage is useless, because the drain gets closed Only when it is impossible to remove the source of infection, the necrotic tissue should be shut off from the peritoneal cavity and drained

**Etiology of Erythema Nodosum**—Examination of tonsils, fluid from the nodules and blood convinced Coglievina that erythema nodosum is a mild form of scarlet fever

## Zentralblatt fur Chirurgie, Leipzig

51 773 822 (April 12) 1924

Improved Methods in Pelvic Surgery R Goepel—p 776
Causation of Jejunal Peptic Ulcer T Naegeli—p 785
Loose Osteoma in Ankle H Hilgenreiner—p 787
*Complications Caused by Ascarids E Haim—p 790

**Complications Caused by Ascarids After Operations on the Gastro-Intestinal Tract**—Within three months Haim has observed two and presumably three cases in which fatal complications have been caused by ascarids One woman aged 47 died in three days after resection by Billroth I method for ulcer on the lesser curvature Necropsy disclosed peritonitis the suture was gaping at one point with a hole the size of one's thumb In the open peritoneal cavity there was a large ascarid, in the stomach and intestine a large number A woman aged 59 was convalescing normally after resection of a malignant cecal tumor The eighth day she became worse and died the ninth Here too peritonitis a gaping suture and an ascarid in the peritoneal cavity were found Another woman aged 44 died the sixth day with signs of ileus after a gastro-enterostomy At necropsy no peritonitis was noted but the stomach was distended, the

efferent loop had collapsed, with torsion of 180 degrees An ascarid was found in this loop Haim holds that it is not superfluous before performing such operations to examine the patient's stool for parasites

## Casopis lekaruv ceskych, Prague

63 653 688 (April 26) 1924

*The Left Auricle in Mitral Stenosis S Mentl —p 653
Ovarian and Uterine Cycle J Trapl —p 663 Conc'n
Ureter Calculi J Rejsek —p 676 Concn

**Left Auricle in Mitral Stenosis**—Mentl frequently observed pains in the right half of the intervertebral space in extreme dilatations of the left auricle The rotation of the heart (which is chiefly due to the hypertrophy of the right ventricle) may be so marked that roentgenoscopy reveals the left auricle at the right border of the heart There is a paravertebral dulness in these prognostically unfavorable cases

## Hospitalstidende, Copenhagen

67 193 208 (March 26) 1924

*Complement Fixation in Tuberculosis T Hansen and C H Würtzen —p 193 Concn

**Complement Fixation in Pulmonary Tuberculosis**—Hansen and Wurtzen obtained a positive reaction with Besredka's antigen in 37 9 per cent of 106 patients in the first stage of pulmonary tuberculosis, also in 71 per cent of forty-nine in the second stage, and in 84 4 per cent of 185 in the third stage

67 209 224 (April 2) 1924

Blood Count from Different Vascular Areas F Rud —p 209

67 225 240 (April 9) 1924

*Blood Pressure in Normal Persons A Faber and E Maclean —p 225 Begun p 217
Squill in Heart Disease I Freuchen —p 234

67 241 256 (April 16) 1924

Cultivation of Tubercle Bacilli on Petroff's Substratum M Kristensen and K A Jensen —p 241
Recklinghausen's Disease in Young Woman A Portman —p 251

**The Blood Pressure in Normal Subjects**—Blood pressure measurements in 1,000 normal men between 20 and 25 showed a wide range, from 90 mm mercury to 160 mm in different persons Repeated measurements demonstrated further that the pressure increases with increasing weight This seems to be a physiologic endogenous phenomenon

## Ugeskrift for Læger, Copenhagen

86 307 330 (April 10) 1924

*Malaria Treatment of General Paralysis V Askgaard —p 307
Health Insurance in Norway J H Berner —p 325

**Malaria Treatment of General Paralysis**—Askgaard reports complete restoration of earning capacity in 32 4 per cent of thirty-seven cases and great improvement with partial restoration in 21 6 per cent The disease has progressed in 3 per cent and in 6 per cent after a transient remission Excluding the patients who were treated mainly for the purpose of keeping the malaria strain alive, the apparently cured total 38 6 per cent and the improved, 26 per cent, a total of 65 per cent benefited since the malaria treatment was introduced in October, 1922

86 331 350 (April 17) 1924

*Experimental Transformation of Sex Characters Pezard, Sand and Caridroit —p 331, p 351 and p 369
Composition of Venous Blood with Circulatory Disturbances III C Schwensen —p 332
*Swallowed Shawl Pin J Fabricius Møller —p 338
Heredity of Diabetes S Hansen —p 341 Idem E Meulengracht —p 357 Reply S Hansen —p 374

**Experimental Modification of Sex Characters**—Pezard, Sand and Caridroit give an illustration of a rooster castrated at the age of 3 months and, a year later, grafted with ovary implants from a hen of the same Leghorn species The male sex characters began to retrogress, even the tail and other feathers showing the transformation to the female type In a later communication, on page 351, they describe unilateral transformation of sex characters, rooster feathers on one side and hen feathers on the other side

**Swallowed Shawl Pin**—Fabricius-Møller insists on roentgen-ray examination at once when a child has swallowed a large headed pin If the pin can be seen working its way downward, expectant treatment is justified But if it sticks in one place, it must be removed at once, even if it is not causing symptoms In one of three cases described, an operation for acute appendicitis, a year after the pin had been swallowed, revealed it projecting from the appendix at a right angle He knows of mother case of the kind In one case the pin caught in the duodenum, and although the head was downward, the tip had injured the wall of the bowel during the two weeks since it had been swallowed Outside of the duodenum and the appendix, it is extremely rare that a pin with a large head fails to pass off through the natural route

86 351 368 (April 24) 1924

Vacuum Formaldehyd Sterilizer S A Gammeltoft —p 353
*Inherited Idiosyncrasy to Antipyrin I Freuchen —p 355
*Vitamin Treatment of Xerophthalmia O Blegvad —p 356
*The Ty Reflex T Thalwitzer —p 358

**Inherited Idiosyncrasy to Antipyrin**—Freuchen has recently encountered two cases, in an infant and in a woman

**Xerophthalmia and Vegetables**—Blegvad insists that vegetables do not contain the proper vitamins to combat xerophthalmia It grew worse in one infant given, in addition to its previous food, cabbage, beans and carrots for eleven days It vanished in less than three days when a pint of whole milk was given daily with a teaspoonful of cod liver oil

**The Ty Reflex in Infants**—This is an arbitrarily coined word to express the general reflex movement noted when a very young infant is suddenly startled or irritated This intense reflex seemed so purposeless that Thalwitzer puzzled over it for twenty years Then he found the complete explanation when he saw a mother monkey shot The infant monkey grappled its mother's body in its fright The young of monkeys and human infants are carried during the first three months of life, and in any fright they turn to and cling to the mother The ty reflex is this instinctive movement to grapple the mother's body

86 369 382 (May 1) 1924

Iron in Chlorosis C Gram —p 370
*Abscess from Injection of Insulin A Friedlænder —p 373

**Abscess Under Insulin Treatment**—Friedlaender relates that three patients developed severe necrotic abscesses at the point of the insulin injections The drug was all from the same package, and the lesion did not seem to be a bacterial infection

## Upsala Lakareforenings Forhandlingar, Upsala

29 165 344 (April 25) 1924

*Bathrocephaly and Clinocephaly G Backman —p 165
Septum Pellucidum and Verga's Ventricle G Backman —p 215
*Shifting of Relative Position of Heart G Backman —p 241
Supernumerary Half Vertebra G Backman —p 249
Variations in Height Day and Night G Backman —p 255
*Cesarean Section P Haggström —p 283
*A Profilometer G Dahlberg —p 335
Trochoscope for Roentgen Work S Arnell and H Laurell —p 339

**Bathrocephaly and Clinocephaly**—Backman's study of the comparative anatomy of these types is from the atavism standpoint

**Embryology of the Heart**—Backman theorizes to explain the embryologic caudad shifting of the relative position of the heart

**Cesarean Section**—Haggstrom analyzes seventy cases of abdominal cesarean section They formed 0 4 per cent of the 15,868 deliveries at the Upsala maternity since 1890 The outcome was better with cesarean section than with prophylactic version, high forceps or vaginal cesarean section

**A Profilometer**—Dahlberg gives illustrations of the gage with a series of plungers, like a Yale lock, which he has devised for study of twins and heredity in general Each plunger has a sharp point at right angles to the lower end When the plungers are all resting against the profile the set is locked, between the two axial bars Laid on paper, the pricks from the points outline the profile

# The Journal of the American Medical Association

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## SOME OF THE SOCIAL PROBLEMS OF MEDICINE *


WILLIAM ALLEN PUSEY, M D

CHICAGO


My wife has a saying, that the other side of the street is always the cleanest—meaning thereby to illustrate the fact that we are less acutely conscious of difficulties at a distance than we are of those directly under our feet This is true of other things besides sidewalks The freedom from cares of youth, the good old times, the ease of life of other days, the extraordinary anxieties of our intense civilization, the perfection of our heroes, whether they are separated from us by time or distance —provided only they are separated from us, these are common illustrations of the kind illusions that distance effects Most of us have a feeling that we have more than our share of difficulties

And so it is with medicine As a matter of fact, of course, medicine—like every other activity of civilized life—has always had its problems It is perhaps true, therefore, that the difficulties that confront us in medicine now are no more perplexing than those which our ancestors have also battled with—and battled with, for the most part, with success

### THE SOCIAL REVOLUTION

It is nevertheless true that medicine, as a part of the present social organization, is passing through a time of extraordinarily rapid change, that important problems, which are in large part new problems, are pressing on us, and that, if medicine is to escape serious and damaging mistakes, it must consider these problems with deliberation, imagination and wisdom If it is to steer a proper course over the changing social sea, even during the next generation, it must give wise consideration to the present trend of society For the social organization, all observers agree, is undergoing an actual revolution And medicine is going with it

This government of ours was organized in a spirit of individualism Given equal opportunity, men were expected to work out their own lives through industry, intelligence and character Competition was allowed to exercise its wholesome influence in stimulating men in their worldly efforts It was the acceptance, unconsciously, of the law of the survival of the fittest, long before Darwin had formulated that concrete conception and given it a name

Now we have a new dispensation During the last hundred years, the social trend has been continuously away from this spirit It was inevitable that it should be so, our world has been transformed in that time by mechanical invention As Robinson says, in that extraordinary book "The Mind in the Making"

> There are more numerous, deeper and wider reaching contrasts between the world today and that of a hundred or even fifty years ago, than have developed in any corresponding lapse of time since the beginning of civilization

And as Kipling puts it

> The past years have so immensely quickened and emphasized all means of communication that our world is not merely "too much with us," but moves, shouts, and moralizes about our bath and our bed through every hour of our days and nights

This revolution has placed men in new relations to one another and has made them dependent on one another, because of the intimacy of their contacts, in a way that never existed before The danger in this situation is that the necessity for social cooperation tends to break down individualism and to encourage the less vigorous to look to society to do for them what it would be good for them to do for themselves

And so the trend has been continuously from individualism to socialism As the social problems have become more acute, this trend has been more rapid The views that were socialistic at the beginning of the nineteenth century had become the views of the individualists by the middle of the century Doctrines that Herbert Spencer was thundering against, with cold logic, as socialistic and dangerous, a little over fifty years ago, are now accepted without protest as an inevitable part of the social situation This is not because Spencer's premises and logic were incorrect—it is not unlikely that in our ultimate experience it will be found that he was correct—but it is because necessity grasps at expedients, and social remedies that Spencer rejected have been utilized, for the practical reason that society had to take care of its rapidly developing situations and it found no other remedies at hand This socialistic trend has been most rapid in the last twenty years Hadley, for example, writing of it in 1914, says

> During the last decade the United States has witnessed a movement in the direction of State Socialism very different in character from anything which occurred in the century preceding

How far this trend is going before it is checked, no one can prophesy, but it is clear that our civilization is committed to a sort of socialism, to the effect that the economically fit and competent shall take care of the weak and inefficient It is an unconscious endeavor to set aside the law of natural selection and to counteract Nature's cruel but salutary process of eliminating the unfit So far as the present social endeavor can be successful, it will tend to foster—to borrow Faguet's

* President's address read before the American Medical Association at the Seventy Fifth Annual Session Chicago June 1924

striking phrase—"the cult of incompetence" The tendency is to foster mediocrity at the expense of competence This tendency is certainly humane, whether it is best for the future of man is another question That will be determined by the future experience of the present cycle of civilization

Of this social revolution, medicine is a part Medicine is, in fact, particularly exposed to the dangers of socialization, because the projects of socialism that obtain the first acceptance are those that have to do with health and physical welfare There is an evident tendency now to appropriate medicine in the social movement, to make the treatment of the sick a function of society as a whole, to take it away from the individual's responsibilities and to transfer it to the state, to turn it over to organized movements If this movement should prevail to its logical limits, medicine would cease to be a liberal profession and would degenerate into a guild of dependent employees

Now, this is a gloomy picture for a celebration, but, to paraphrase a statement of Birrell's, it is better to entertain a gloomy fact than a cheerful fiction

### THE INEVITABLE REACTION

And there is another side to this picture There are influences which will in time, probably, first check the socialistic trend and then cause a reaction Probably this will come only after sad experience and at high cost, but society gets on only with such penalties

In the first place, the effects of a natural law, such as that of the survival of the fittest, cannot be greatly modified nor long set aside by the puny efforts of man

In the next place, the machinery for all these socialistic and paternalistic enterprises will in time become so large and unwieldy that it will be impractical and fall to pieces When, in addition to the ordinary machinery of government, we add the new machinery for running the mines and the railroads and the telegraph and the telephone and the wireless, for the regulation of capital and industry, for the stabilization of industry, for employment insurance and health insurance, for old age pensions, for socialized recreations and socialized neighborliness, for socialized health education and programs—when on top of these you pile the organizations for keeping the people from using opium and cocain and alcohol and doing other things that are not good for them, for enforcing all sorts of laws that prohibit some of the population from doing things that another part thinks are wicked, for socialized nursing and medical care, for taking over obstetrics, child welfare and venereal diseases, for the care of the injured, crippled and defective—when these activities, nearly all of them temporarily good in themselves, have developed to a certain point, the burden will become too great The men taken from productive occupation and private enterprise that will be required to man them will be such a large proportion of the population that, sooner or later, the social fabric will give way There will not be enough of the population left for production to take care of the administrators, and a reaction, if not a crash, will come

This is no imaginary situation Attention is constantly being called to it As Beveridge points out, even now there is one government employee for every twenty-one adults and, according to the National Industrial Conference Board, every eleven workers over 16 years of age support one government employee In view of his wise statesmanship, it is not surprising, but it is a reason for encouragement, that President Coolidge has opposed this trend in his definite stand against federal support of such activities

### POWER OF AN ENLIGHTENED MINORITY

In the next place, and most hopeful of all, society is usually saved from its own carelessness—except when a cataclysm occurs—by the persistence of a minority element which, through character, intelligence and force, is able ultimately to exercise a controlling hand in the direction of affairs If civilization is to be saved from the effects of a socialized mediocrity, it will be by the presence in the community of this influential minority

How shall we in medicine oppose this destructive social trend? By making ourselves, in the first place a part of the enlightened minority that is the salvation of democratic government—that leaven which has caused the gradual advancement of mankind, next, by making our standard sound public policy, by being alert to the socialistic dangers to medicine and by aggressively opposing them, by opposing, as vigorously as can be done, the various governmental projects for practicing medicine, and the efforts of organizations, public and private, including medical schools and hospitals, to go into the practice of medicine as a business These things are already being done They are fundamentally wrong, they are throwing to the winds the sound traditions of medicine that have developed from long experience and that from experience have been found to be essential to medicine's character and progress The profession should bring all the forces of its influence to their opposition It might well adopt as its motto here the words of Tennyson's Ulysses "Strong in will, to strive, to seek, to find and not to yield"

These are but examples of how we can oppose the socializing trend in medicine The essential thing is to be alive to these dangers and consistenly to oppose movements that are unsound, regardless of their temporarily seductive character, for, as Spencer says, "If amid all those compromises which the circumstances of the time necessitates, or are thought to necessitate if nothing beyond the exigencies of the moment are attended to, and the proximately best is habitually identified with the ultimately best, there can be no true progress"

It is, to take Spencer's phrases, the acceptance of proximately best measures, instead of following the sounder, harder course of working for the ultimately best measures for society, that is the danger to medicine, because it leads to medical socialism The tendency has already resulted practically in medical socialism for the middle classes of Europe, and in doing so it has brought about a situation that is neither sufficient nor satisfactory for the public or the medical profession

If we accept without prudent foresight expedients to meet temporary difficulties, such as the Sheppard-Towner Act, medical service will soon be in the same situation in this country It is not for the good of the people of the country that they should be spoon-fed in the matter of taking care of their physical ills any more than in any other matter in which they should take care of themselves

### LIMITATION OF POPULATION

There are two problems that are corollaries of these socialistic tendencies of society which a small group of social pioneers—and some faddists—have long been emphasizing, and in which leadership should be looked for in medicine Thus far, however, medicine has made little effort to take a position in them that justifies leadership These subjects are limitation of population by birth control and improvement of the race by breeding

In our own time, one of the critical facts in man's history has occurred He has now covered the desirable parts of the earth Until now, men have always had new hospitable territory over which they could spread when population became too dense In the words of Turner "Never again will such an opportunity come to the sons of men" There is no longer a frontier

To consider only our own country Our future population must make its support out of territory that is now occupied Starting with a population of 5,000,000 people in 1800, the United States has in a hundred and twenty years passed 100,000,000 Nor is this remarkable increase peculiar to the United States It is a world phenomenon In the last hundred and twenty years there has occurred a greater increase in the world's population than in all the preceding tens of thousands of years Within the span of life of children now living, our population will reach 175,000,000 With that density of population, the pressure of existence will become so strong that the death rate—particularly infant mortality—will overtake the birth rate, and the population will gradually become stationary If no effort is made at birth control, Nature will take charge of the situation by eliminating those least able to resist When this condition of saturation arrives, the humane plans of socialistic altruism of today will be wrecked in the struggle by society for mere existence

As has been repeatedly pointed out, those people inherit the earth who multiply most rapidly, and, unfortunately, fecundity tends to increase inversely according to the social scale Society will, and should, make every effort to do its best for its weaker members, but there is no good reason why it should not try to stem the tendency to the peopling of the earth by the defective, the unfit and the incompetent

If these United States, if indeed, modern Christian civilization, is not to go down ultimately to the misery and degradation of the overpopulated countries of Asia, some cognizance must be taken of these facts, and serious effort made to control them It is partly a matter of birth control and partly a matter of breeding But the preponderant increase of the least fit part of society is the factor of the highest importance

I particularly desire that the mistaken impression should not go out that I mean to say that medicine now has any satisfactory program for birth control It has not The point I am undertaking to emphasize is that the subject is of vast importance to the welfare of man, that it is one which should have scientific guidance, that for this medicine must be looked to and that medicine should undertake to approach its responsibilities here by beginning to give the subject the continuous and serious thought that it justifies

### IMPROVEMENT OF RACE BY BREEDING

The chief concern of present-day eugenics seems to be the effort to eliminate hereditary disease As a matter of fact, that is its least important function The predisposition to disease by inheriting a physical body that is not vigorous is a common fact, but the actual inheritance of disease, as such, is a relatively unimportant social matter The only great disease in which this occurs is syphilis, and the actual amount of hereditary syphilis that exists is infinitesimal compared with the total amount even of that disease The real problems of eugenics are those of breeding to improve the physical and mental and moral qualities of the race We know, thanks to the works of Mendel, the workings of many of the laws of heredity Maud Slye, one of our own countrywomen, has shown that the effects of heredity can be foreseen and controlled with scientific definiteness by breeding There is no doubt that the same laws could be applied successfully in the breeding of man MacKay, in an exalted passage, in an otherwise singularly precise book, "The Happiness of Nations," has shown the ultimate that might be expected were it possible that the breeding of men could be improved to the limit of possibilities that we can even now see No practical man believes that scientific breeding can ever be applied to man as it can be to animals, but we may at least hope that, in time, society will give more than casual consideration to the possibilities of improving men by wiser breeding

The first step, and the only practical step at present, is the negative one of taking measures to prevent the increase of those who are socially hopeless defectives, the importance of this should have continuous emphasis The first constructive step that could be taken would be to make some serious, persistent effort to encourage the mating of those individuals who are manifestly most fit Society's methods here now could hardly be more haphazard Marriage is largely a matter of propinquity, or economic or social consideration

It would be a courageous man—and he ought to be a wise one—who would undertake to offer a social plan now for the improvement of human mating I certainly am no seventh son of a seventh son But the possibilities of wiser breeding are so great, and the holding down of the progress of man by our present course constitutes such a handicap, that it is hardly to be doubted, if men are ever able to see the vision, that they will make a serious effort to fulfil it If there is to be effective leadership in this field, medicine must take part in it

### PRESENT PROBLEMS

The foregoing problems especially need emphasis because they are, in a way, problems of the future, and for that reason are neglected Many of medicine's problems of the present day are equally bound up with the social welfare, but these are having constant emphasis and need no lengthy statement here Because of their importance and difficulty, one sort of these problems may be briefly referred to These are the problems involved in the education of the public in medicine and in regard to medical frauds and fanaticism

The education of the public in medicine is a long way from complete, but it is being faithfully undertaken by scores of agencies The audience is for the most part receptive—not to say eager—and the difficulties, as far as the intelligent public is concerned, are chiefly those of the size of the task and the complexities of the subject The hardest problem, because of the ignorance or the mental vagaries of the groups that must be reached is that of educating the public concerning medical frauds and cults

Apparently, we have found the successful way of meeting the problem of medical frauds A few years ago, it seemed impossible to check the quack doctor, the "patent medicine" man and that "patent medicine" man for the medical profession—the proprietary medicine man, and yet, in twenty years, they have been converted from prosperous, callous, impudent aggressors to defensive weaklings The method of meeting them has been an aggressive policy of disclosing their fraudulent character and of educating the intelligent public In this work we have had the self-sacrificing cooperation of the enlightened public press But the crusade was begun and has been largely conducted by the American

Medical Association under the leadership of that sturdy fighter of dishonesty, Dr George H Simmons of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION We should not forget, too, the support of his two able coadjutors in the department of pharmacy and chemistry, Dr Arthur J Cramp and Dr W A Puckner These results should make us optimistic as to what can be done in other directions

We have much the same sort of situation to meet in the problem of our responsibilities to the people in regard to cults But here we come in contact, as a rule, not with rascals, but with fanatics and faddists

These cults may be divided broadly into two groups

1 Those that oppose medical research and progress and deny the established facts of medicine

2 Those that run after vagaries and seductive medical theories

The antivivisectionists and the antivaccinationists are the prototypes of the first group

The cults in the second group are based on emotions and pseudoscientific dogmas These cults come and go One is likely to feel toward them like the motorist who said that there is no use to pass a Ford because there is always another just ahead They do not constitute a large proportion of society but, like the Scotchman's devil, they make up for inferiority of strength by superiority of activity

Their devotees are often sincere emotionalists and dogmatists There are good people—intelligent in the ordinary affairs of life and cultured in a superficial sense—who would stop medical research and progress, who believe that, by taking thought, or not taking thought, or ignoring—it is hard for the ordinary man to describe their mental processes—one can counteract the effects of disease and injury, not to say abolish them Now, there is no common ground in these matters for the cultist and for the intelligent man who meets the hard facts of the world face to face They should not simply be damned It is an unwholesome type of mind that has no credulity and, as Robinson says, "We must, after all, come to terms in some way with the emotions underlying mysticism"

These cultists present a difficult problem, but it is a problem that we have to meet They are not harmless idealists, in many of their activities they are the enemies of the physical welfare of man and beast

There is evidence that the intelligent public is coming to realize that it should not be the burden of medicine alone to fight the cultists who oppose scientific medical progress The formation of the society known as the Friends of Medical Progress, under the leadership of such men as Ex-President Eliot of Harvard, President Angell of Yale, Bishop Mann of Pittsburgh, Cardinal O'Connell of Boston and President Pendleton of Wellesley College, indicates a trend of intelligence and a sense of responsibility in this field that should be a source of encouragement to all well-wishers for the health of men

In order that it may not be thought that we are unaware of the fact that the medical profession is not above criticism and that there are fads in our own ranks, may I delay long enough to say that we know there is need of education of many members of our own profession against unscientific and sensational medical theories and methods One of the greatest difficulties of the physician is to sift the chaff from the wheat of new medical knowledge Undoubtedly, one of the wisest things he can do in this connection is to remember the aphorism of Hippocrates that "experience is fallacious and judgment difficult" As for the layman, he will do well to accept as a motto for himself, in regard to new medical methods, a variation of Pope's line to the effect, "Be not the first *on* whom the new are tried"

And, in our social relations, we do not stand simply in the smug position of teachers and leaders in medical affairs We have some obligations that are as commonplace as simple obedience to laws that pertain especially to us Our burdens in this respect have been increasing gradually for years Now the nation is going in for restrictive medical legislation, and new obligations are coming on us We are trustees controlling the medicinal use of narcotics and alcohol, and the obligation put on us is peculiarly one of honor. It is not a question of the advisability of these laws or of their irritating and burdensome restrictions It is not a question of wet or dry It is more even than a matter of obedience to law We are put on honor in utilizing the privileges that are given us in the prescribing of narcotics and alcohol It is a weak man, or a dishonest one, who, when he realizes the peculiar character of his obligations, under these laws, will hold them lightly

## THE GREATEST PROBLEM OF ALL

But, after all is said about the other problems and responsibilities of medicine, the greatest of these is the old homely one of treating men that are sick and injured We hear so much now about preventive medicine, about medicine's new social responsibilities, that this old responsibility is failing to stand out in proper proportions Prevention is an important function of medicine, and will doubtless become more so, but it is altogether likely that it will never be its chief function We would like to see the day when physicians were not needed, but it can be confidently predicted that no such happy day will ever come Sickness and injury will inevitably remain part of the lot of man Carry our discoveries to the utmost limit, man is still a machine that will get out of order, will be injured and will ultimately wear out As long as that is true, there will be need for the personal physician to take care of the individual patient For this service, thousands of physicians will be needed where hundreds can be usefully employed in research and preventive medicine These are the men on the firing line, the battle for the relief of suffering depends on them And the efforts of society, as of this Association, should be dedicated to the welfare, and development in training and character, of these men, engaged in the workaday duties of caring for the sick, wherever they are scattered over the face of the earth To foster the competence of these men is the greatest social responsibility of medicine

7 West Madison Street

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**Estimation of Sulphur in Arsphenamin**—A method is described by E Elvove for determining total sulphur in neoarsphenamin and sulpharsphenamin which depends on the oxidation of the sample by means of potassium permanganate and hydrochloric acid The results obtained by this method agreed closely with those obtained by the sodium peroxid method In addition to the advantage that it is more suitable than either the Carius or sodium peroxid method as a routine method for the simultaneous determination of total sulphur in a comparatively large number of samples, this method apparently has also the advantage that the required treatment of the sample is closely similar to that which is used in connection with the routine determination of arsenic, so that the same treatment prepares the sample for both the total sulphur and arsenic determinations—*Pub Health Rep* 39 734 (April 11) 1924

# THE DERMATOSES DUE TO COSMETICS *

H N COLE, M D
CLEVELAND

The use of cosmetics has become, unfortunately, more and more common What was once considered poor form is now the mode with the average woman, certainly in the cities Most women paint, all of them use powders of different types, and if one were to read over the list of all the different cosmetics it would be indeed startling Statistics recently furnished by the Cleveland Public Library show that the general use of cosmetics has reached such proportions that, in 1919-1920, on the basis of taxes paid, there were some $205,000,000 worth of these preparations sold, and the Department of Commerce tells us that, in 1921, $75,000,000 worth were manufactured—at what price they were sold one can only venture a guess We say that the average woman uses at least some of the long list of cosmetics, and yet many of these women are unaware of the danger they are running from such use

Consider for a moment the different types of poisonous preparations that go into the manufacture of far too many of these preparations—lead, mercury, bismuth, arsenic, compounds of silver, salicylic acid, resorcinol, phenol bodies, pyrogallic acid, nitric acid, calcium, barium, wood alcohol and, last but not least, paraphenylendiamin If the public were conversant with these facts, how long would it take for the sales to drop enormously?

## LEAD

Take the first one of these poisonous metals mentioned, lead I have recently seen a woman with an extensive, diffuse inflammation of the head, face, ears and neck, the eyes being swollen shut On close questioning, she admitted that she had recently had her hair dyed in a reputable beauty parlor Analysis of the nostrum used showed that it contained 23 per cent of lead acetate A chemist working for the Connecticut Department of Agriculture, reporting a like poisoning from the same nostrum, said, "A person who wishes to ruin his hair can hardly adopt a more certain means of doing so than to use a preparation containing lead acetate" The American Medical Association recently reported that, from another one of these nostrum hair dyes of this type containing lead acetate, a case of lead neuritis and two cases of dermatitis of the forehead, neck and face have been reported

But this dangerous metal is not employed only in hair dyes Lead is sometimes a constituent of face enamels and creams, to give then a softening feel Woltman reports a severe case of lead poisoning from the twelve years' use of "Owl Enamel Cream," the patient showing a lead line on the gums, pigmentation under the nails, and a bad bilateral wrist-drop The patient had pains in the arms and legs, vomited, and was unable to walk

Lead also enters into the composition of certain face powders, a good example being lead carbonate, often called "flake white," a cheap face powder made of finely ground lead carbonate This preparation has been guilty of numerous cases of lead intoxication Robinson reports two of these cases showing wrist-drop, muscle atrophy, a lead line on the teeth and paralysis One of these patients, on account of abdominal cramps, had been operated on for appendicitis It was found that she had used "flake white" since childhood Recently, in substantiation, Barron and Habbin of Minneapolis reported one case of nonfatal lead poisoning, and, in another report, one case of frank, fatal lead poisoning and three other cases of fatal poisoning in the same family, in which the presumptive evidence was so strong as to justify the conclusion that all five cases were due to the use of a lead-containing cosmetic that is being sold in most drug stores under the name of "flake white" Holland, of the Kentucky board of health, says that "flake white" (lead carbonate), as a cosmetic face powder, has been the cause of every form of lead poisoning known to medical science I wonder how many other cases of lead poisoning should be laid to questionable face powders that have not been reported or, possibly, have not been correctly diagnosed

## USE OF MERCURY

Mercury is another one of the dangerous metals used in the manufacture of cosmetics We find it employed variously—sometimes in hair dyes, like lead, but more often in face creams and skin bleaches In Cleveland, the city chemist reports to me, there are two well known skin bleaches on the market, one containing 33 per cent of ammoniated mercury (white precipitate) and the other 50 per cent They surely should be strong enough to bleach any skin, whether delicate or toughened by many a rouging

The American Medical Association Laboratory reports that in its analyses of bleaches and freckle lotions it has found mercuric chlorid in solution as high as 1 200, 28 2 1,000, 16 5 1,000 and 4 1,000 When one stops to consider that mercuric chlorid in 1 1,000 solution is an efficient antiseptic, it can be readily seen what danger an uneducated woman must be running in using a bleach in such a high percentage as 1 200 Mercury in the form of calomel also enters into the manufacture of certain toilet creams It is added to give them a softening feel We have recently seen a patient who consulted us for a peculiar, bluish discoloration of the skin of the face The condition was of long standing Being conversant with Goeckerman's two cases, in which there was deposition of pigment in the skin from the use of a toilet cream containing calomel, we had the patient's toilet cream analyzed, and it also was found to contain a calomel constituent The metal bismuth enters more often into the preparation of so-called rice powders As long ago as 1884, Tuttle reported having seen five cases of poisoning from a cosmetic containing an insoluble preparation of bismuth, the patient showing symptoms of clamminess of the skin, nausea and spasms The question may be asked Why the presence of bismuth in rice powder? As is well known, most of the so-called rice powders recommended for the face by the beauty specialists contain little or no rice La Wall, chemist for the Food and Dairy Commission of Pennsylvania, in sixteen examinations of so-called rice powders, found only two to be pure Six contained some rice, and the rest, talc, cornstarch, zinc oxid, chalk and bismuth subnitrate

## ARSENIC AND OTHER DANGEROUS DRUGS

One would not imagine that such a dangerous drug as arsenic would find a place in any cosmetic Recently, we saw a young man who came to us because of a

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Chairman's address read before the Section on Dermatology and Syphilology at the Seventy Fifth Annual Session of the American Medical Association Chicago June 1924

puzzling, scaly dermatitis of the face, neck and ears, along with edema about the eyes The first time we saw him, the process was classified as an industrial dermatitis, and he was laid off from work However, the dermatitis flared up before he returned to work, and careful questioning then revealed the fact of the irregular use of a new hair tonic Examination of this preparation by the Cleveland city chemist showed arsenous oxid, 1 06 grains (0 068 gm ), to the fluidounce

Several others of the drugs mentioned above enter especially into the manufacture of hair tonics, for example, salicylic acid, resorcinol and phenol bodies For some patients they seem to have no especially bad effect, but, a short time ago, we had a patient confined to the hospital for over two months with a generalized dermatitis exfoliativa—almost fatal in character This patient gave a straight history of the use of a well advertised hair tonic, which the barber had applied once to the scalp Because of the fact that the condition became worse following the application, he went back and had another on the theory that it was bringing out the offending disease This application almost resulted fatally Analysis revealed that the preparation contained salicylic acid, menthol and phenol bodies—presumably resorcinol

While on the subject of hair tonics, it might not be amiss to bring up the subject of wood alcohol, which too often enters into their manufacture—as well as that of bay rum and like toilet waters I have no personal experience, but Wilbur of the United States Public Health Service tells us that Barnard, while working in the agricultural department of Indiana, found seven preparations of patent hair tonics containing wood alcohol, and Newcomb, in sixty-six toilet preparations, found only forty-six to be free from this deadly poison As physicians, we refuse to supplant grain alcohol by wood alcohol in our offices for antiseptic washes, we refuse the use of wood alcohol for rubbing our patients, yet any young girl or woman may walk into a store and purchase a toilet lotion which in perhaps 33 per cent of the cases will have wood alcohol as its base

Silver compounds and pyrogallic acid enter mostly into the manufacture of hair dyes They may endanger the patient in the same way as lead or mercury They are to be condemned They would not be safe for hair dyes even if an expert physician attempted to employ them

The metals calcium and barium are employed in the manufacture of depilatories The public has an idea that they are entirely harmless, and if the average woman does not require them for hair on the face, she will use them for axillary hairs What dermatologist is there who has not had numberless cases of dermatitis of the face or axillae from their use? Some of these cases are not so severe, but occasionally one sees a very extensive dermatitis I might also add in this connection that the same applies to the various deodorants widely advertised and used by women

### PARAPHENYLENDIAMIN

And now a word as to the most dangerous drug of them all, paraphenylendiamin It is not necessary to go into the history and chemistry of this drug, as it has already been fully explained E Erdman, who discovered it in 1889, warned against its use in dyes because of its irritating character on human beings However, because it is so quick in its action, because it is so easily applied, runs a gamut of colors and penetrates deeply into the hair, it is still the common dye used in most cases France, Germany and Austria have recognized its dangerous character and long ago prohibited its use, but they do not hesitate to manufacture it for export to America, where it is widely used for hair dyes and fur dyes After coming in contact with the skin, this drug sets up a severe dermatitis, often vesicular in character, and this dermatitis may spread over the entire body, as in two cases I have recently seen in which the patient was poisoned by the use of a hair dye, "Inecto-Rapid"

One peculiar thing about the dermatitis due to this drug is that it is very persistent, often lasting for weeks and weeks This was first called to our attention by Brocq Years ago, Prince A Morrow said that he knew of no other agent which, when applied to the skin, produced such a persistent dermatitis In dogs, this drug, when injected hypodermically, causes tenesmus, diarrhea, salivation, lowered temperature, opisthotonos, and death, and in human beings, the cases of dermatitis due to its use in dyes are numberless The American Medical Association, from Feb 13, 1909, to Sept 4, 1909, alone, had thirty-two cases of poisoning due to its use reported to it

The action of paraphenylendiamin as a dye is supposed to be limited to the hair itself, the depth of the color depending on how long the drug is left in contact with the hair before a solution of hydrogen peroxid is applied to stop its action Thus, a gamut of colors may be produced on the hair, depending on the period of time the paraphenylendiamin is allowed to act Occasionally, it does not work as desired, and Bunch reports seeing a patient with hair stained a magenta from its use Again, its action may be even deeper than the skin In Molliere's case, the urine was a mahogany color Berger's patient suffered from sleeplessness, dizziness, weakness of the legs, epileptiform attacks, syncope, retrobulbar neuritis and scotoma Damianos' patient had stomach symptoms, exophthalmos, poor vision and epileptiform convulsions Gautier reports that there have been several deaths from its use as a hair dye Should the United States longer hesitate in joining France, Germany and Austria in prohibiting the use of this dangerous dye?

Just recently we have experienced a new use for this dangerous chemical in the form of a dainty little box containing a mirror, a small brush and a black paste, looking like stove enamel, used to stain the eyelashes and the eyebrows, going under the name of "trepine" (Mascara) and containing paraphenylendiamin Naturally, it set up a very persistent dermatitis of the face, ears, neck and the upper part of the body There was no word or note of warning with this preparation, which is sold, apparently, far and wide to anybody having the money

For the last year or so, it has been the mode to employ various widely advertised preparations to sleek down the hair I have seen numerous cases of mild dermatitis of the face and neck, and occasionally of the hands, from their use I wonder what has been the experience of other physicians and dermatologists in this connection

### POISONOUS ACTION

Let us now consider how these various cosmetic preparations injure the persons employing them In the first place, there is the pure mechanical obstruction by creams, powders and rouges employed on the face The pores in our skin were intended by nature to serve as lubricating and excretory ducts If these are co-

stantly closed off, the mechanical obstruction alone is bound to injure any skin

Then we have the specific chemical action, depending, in the first place, on the susceptibility of the patient, and, secondly, on the strength and duration of the application, along with the character of the nostrum applied —for example, mercury, arsenic or paraphenylendiamin It is well known that if paraphenylendiamin is applied to any head of hair without the use of hydrogen peroxid to check its action, any skin will be irritated more or less severely

### COURSE TO BE PURSUED BY PHYSICIANS

To say that these occurrences are frequent goes without mentioning Moreover, I believe that all members of this section will join in the assertion that there is a great and alarming increase in the dermatoses due to these various cosmetic preparations The question is raised What shall we as a section and as physicians do to alleviate this evil? In the first place, as physicians, all of us, and especially the general practitioner, should warn our patients of the deleterious results and of the dangers arising from the use of patent hair tonics, hair dyes, face powders, creams, etc This is getting at the source, and will be of inestimable value Moreover, the American Medical Association has within its power the means of rendering great service to the public in giving warning of the danger from cosmetics This can be done, first, through the American Medical Association press bulletin, and, secondly, through the admirable journal *Hygeia,* which should be in every American home No such public spirited enterprise has ever before been offered to the American public

As a second broad means of combating this evil, we have offered to us the possibility of protecting the public through proper legislation This should include laws to enforce the placing of the names of all poisonous ingredients on the label Moreover, laws prohibiting the use of the most harmful types of ingredients in cosmetics would be of great value, and to these there should be added a criminal liability to enforce recognition And in the United States, as in many foreign countries, there should be a law prohibiting the use of paraphenylendiamin as a dye for hair and furs

### SUMMARY

There seems to be an alarming increase in the use of cosmetics—and along with this a coincident increase in the dangers due to their use The esthetics of cosmetics are the concern of the physician only secondarily, but we should do everything in our power to call to the attention of the public the damage resulting from their use The dangers are of two broad types one, the mechanical obstruction—though not so great, yet not to be minimized—due to the obstruction of the pores in the skin, and, second, the destructive type due to various chemicals and depending on the chemical used, the duration of its application, the area to which it is applied, and the susceptibility of the patient More energetic action on the part of the medical profession to alleviate and remove this evil is justifiable This can be done by educating our patients, personally, and by the American Medical Association through the press bureau and through *Hygeia* Moreover, there should be closer regulation of the sale of cosmetics, either by prohibiting certain more dangerous drugs entirely or by forcing the printing on the label of the names of the harmful constituents Paraphenylendiamin as a dye for the hair and for furs should be prohibited entirely with heavy penalty As the section most vitally interested, we believe that these recommendations should be brought to the attention of the Council on Legislation of the American Medical Association

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# BILIRUBIN DETERMINATIONS IN THE BLOOD

## AS A MEASURE OF LIVER DAMAGE IN TREATMENT WITH ARSPHENAMINS *

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Jaundice is a not infrequent complication of treatment with the arsphenamins It may exist before treatment as the result of a syphilitic hepatitis it may develop after the first treatment from a hepatic Herxheimer reaction It may appear some weeks after a few injections and represent a hepatorecurrence, or it may develop later as a result of the toxic effect of the drug on the liver In rare cases, the latter may go on to a fatal acute yellow atrophy We know from laboratory studies as well as from clinical experience that the organ dominantly attacked by the arsphenamins is the liver

TABLE 1.—*Number of Injections of Neo-Arsphenamin in Patients Receiving Less than Fifteen Injections*

| No | Name | No of Injections | Bilirubin Parts per Million | Comment |
|---|---|---|---|---|
| 1 | L D | 7 | 0 7 | |
| 2 | H G | 12 | 0 7 | |
| 3 | A S | 11 | 2 0 | |
| 4 | E C | 5 | 2 0 | |
| 5 | Wm S | 15 | 0 7 | |
| 6 | H T | 14 | 0 7 | |
| 7 | A H | 14 | 0 7 | Intolerance |
| 8 | E S | 15 | 0 3 | |
| 9 | M C | 8 | 2 0 | |
| 10 | C D | 9 | 0 7 | |
| 11 | P L | 5 | 0 0 | |
| 12 | L O | 4 | 0 0 | |
| 13 | B J | 14 | 0 7 | |
| 14 | M H | 4 | 2 6 | |
| 15 | F L | 13 | 0 7 | |
| 16 | R M | 14 | 1 6 | |
| 17 | W M | 4 | 46 8 | Hepatorecidive jaundice |
| 18 | Wm J | 12 | 1 0 | |
| 19 | V J | 4 | 0 0 | |
| 20 | H Di N | 15 | 156 0 | Arsenical jaundice |
| 21 | A | 6 | 0 0 | |
| 22 | V S | 1 | 3 9 | Reaction to primary injection |
| 23 | L B | 3 | 0 0 | Pregnant |
| 24 | H O | 2 | 3 6 | |
| | | 3 | 8 2 | |
| | | 4 | 7 2 | |
| 25 | D W | 9 | 0 0 | |
| 26 | G W | 10 | 0 0 | |
| 27 | N R | after rest period | 0 7 | Had toxic hepatitis previously |
| 28 | R C | 2 | 7 8 | Jaundice present |

In patients who are receiving a large number of injections of one of the arsphenamins, it would be of value if a test existed that would determine the manner in which the liver was tolerating the drug As a matter of fact, a valuable method of determining hepatic injury appears to have been developed Wechselmann and Hoborst [1] state that in latent icterus, and preicteric and subicteric conditions, there is sometimes an increase in bilirubin in the blood serum This points to previously damaged liver cells which are inefficient and do not bind arsphenamin as they should These authors believe that arsphenamin has no toxic effect on a healthy

* From the Research Institute of Cutaneous Medicine

1 Wechselmann and Hoborst Arch f Dermat. u. Syph. **136** 285 1921

liver, but that arsphenamin jaundice usually occurs in hypersensitive subjects and that the condition is often expressed by a preicteric bilirubinemia

Chargin and Orgel [2] state that, estimating the amount of bilirubin in the blood, it is possible to predict (by noting any rise in bilirubin content) a tendency to jaundice in syphilitic patients under arsenic therapy (The method employed by these authors did not permit them to determine the actual amount of bilirubin present)

TABLE 2.—*Arsphenamin Injections from Fifteen to Twenty-Five*

| No | Name | No of Doses | Bilirubin, Parts per Million | Comment |
|---|---|---|---|---|
| 1 | T D | 20 | 5 3 | Had had toxic jaundice 3 months before |
| 2 | M C | 18 | 0 8 | |
| 3 | M B | 25 | 0 0 | |
| 4 | A H | 25 | 0 0 | |
| 5 | M J S | 16 | 1 3 | |

In order to evaluate the importance of bilirubin determination in the blood, we carried out a series of studies on the blood serum of syphilitic patients receiving repeated injections of the arsphenamins, employing van den Bergh's quantitative test The results are tabulated according to the number of injections received by the patients While the aggregate of the patients studied is not large, yet the results are sufficiently suggestive to warrant, we believe, a preliminary report

TABLE 3.—*Arsphenamin Injections from Twenty-Six to Fifty*

| No | Name | No of Doses | Bilirubin Parts per Million |
|---|---|---|---|
| 1 | A C | 30 | 0 7 |
| 2 | R T | 15 | 0 3 |
| 3 | F J | 34 | 3 6 |
| 4 | M G | 48 | 1 0 |

Of this series of twenty-eight patients, three patients had jaundice and all showed an increased bilirubin content in the blood Apart from this, nearly all the other cases were normal with the possible exceptions of four patients in whom there was a content of from 2 to 3 9 parts per million As anything over 2 per million is probably to be regarded as excessive, these cases may represent beginning pathologic change in the liver

It will be observed that there is no relationship between the number of injections and the amount of bilirubin present

Table 2 represents patients who received between fifteen and twenty-five injections of an arsenical Only one patient shows an increase in bilirubin, and this woman had had a toxic jaundice three months previously We should suspect that the liver was not yet normal

TABLE 4.—*Arsphenamin Injections Over Fifty*

| No | Name | No of Doses | Bilirubin Parts per Million | Comment |
|---|---|---|---|---|
| 1 | R C | 60 | 0 5 | |
| 2 | H B | 51 | 0 7 | |
| 3 | S H | 52 | 0 0 | |
| 4 | M B | 55 | 1 3 | |
| 5 | B | | 0 4 | Treated for syphilis 2 hours |
| 6 | S | 112 | 0 7 | |

In Table 3 are given the results on four patients who received between thirty and forty-eight injections One of these has an increased bilirubinemia

In Table 4 are observed the results in six patients who received between fifty-one and 112 arsenical injections The bilirubin determination in all these patients is normal

A survey of these tables enables one to state that no relationship exists between the incidence of hyperbilirubinemia and the number of treatments given In the last group, in which from fifty-one to 112 injections were administered, no patients exhibited excessive bilirubin These results appear to confirm the observations of Greenbaum, who, working in our clinic on hepatic function with the phenoltetrachlorphthalein test, arrived at similar conclusions

TABLE 5.—*Reactions to Arsphenamin*

| No | Name | No of Doses | Bilirubin, Parts per Million | Comment |
|---|---|---|---|---|
| 1 | H | 14 | 3 6 | Just recovering from a dermatitis |
| 2 | A H | 14 | 0 7 | Intolerance |
| 3 | H D N | 15 | 156 0 | Arsenical jaundice |
| 4 | N R | | 0 7 | Has had toxic hepatitis |
| 5 | R C | 2 | 7 8 | Arsenical jaundice |
| 6 | V S | 1 | 3 9 | Reaction to primary injection |
| 7 | T D | 20 | 3 3 | Had toxic jaundice 3 months previously |
| 8 | M | 7 | 81 9 | Jaundice and multiple neuritis |

High bilirubin determinations are present during jaundice, and some increase is present in many cases after recovery from clinical evidences of jaundice

In Table 5, the relation of hyperbilirubinemia to jaundice, present and past, is seen In several patients, other reactions were observed in association with an increase of bilirubin The question of greatest importance is, Can one foretell an oncoming jaundice by an increased content of biliburin in the blood before actual clinical evidence is present?

Meulengracht [3] asserts that bilirubin has to reach a certain level in the blood serum before it passes into the tissues, and a still higher level before it is eliminated in the urine Examination for urobilinuria supplements but cannot take the place of an examination for blood bilirubin

TABLE 6.—*Results of Blood Examinations*

| No | Name | Bilirubin, Parts per Million | Date | Comment |
|---|---|---|---|---|
| 1 | R H | 7 2 | 1/ 2/24 | No evidence of jaundice |
| 2 | R H | 11 7 | 1/10/24 | No evidence of jaundice |
| 3 | R H | 13 0 | 1/14/24 | Clinical signs of jaundice |
| 4 | R H | 11 7 | 1/21/24 | Still jaundiced |
| 5 | R H | 3 1 | 2/28/24 | Jaundice gone |

The following case sheds light on the query proposed above

A woman, aged 55, presented herself for advice because of a generalized violent and intolerable itching of the body (There was no factor of syphilis or arsenotherapy in this case) Examination of the blood showed a pathologic amount of bilirubin One week later, the bilirubin had further risen and led us to suspect an impending jaundice Four days later, another slight increase was evident, and at this time the skin and conjunctivae had a distinct yellowish discoloration The serial examinations of the blood of this patient are given in Table 6

The grade of bilirubinemia appears to give some evidence of the rise and decline of hepatic symptoms The

2 Chargin, Louis, and Orgel, S Z Jaundice in Syphilitic Persons Receiving Arsenical Medication, Arch Dermat & Syph 7 495 (April) 1923

3 Meulengracht Ugesk f Læger 81 1785, 1919

sequential examinations in Table 7 illustrate the parallelism between the amount of bilirubin in the blood and clinical evidence of jaundice

In Table 8, the rise and decline of bilirubin are shown to be coincident with the evolution and involution of an attack of icterus following the administration of arsenical injections Within a month, the bilirubin declined from 175 parts per million to the normal

It would seem, therefore, that liver damage inflicted by the arsphenamins may be predetermined by bilirubin determinations

Whenever an increase in the blood bilirubin manifests itself it would appear the part of caution, in the light of our present limited knowledge, to interrupt the arsenical treatment, when the bilirubin declines to normal, cautious resumption of the arsenicals, or, better, some other antisyphilitic, may be used

Table 9 illustrates the subsidence of bilirubin to normal after a rest period

In judging of the significance of a hyperbilirubinemia in the course of arsenical treatment, it must be realized that an excess of bilirubin may be brought about by other causes Obstructive catarrhal jaundice, cirrhosis of the liver, pernicious anemia, myocarditis, croupous pneumonia, malaria and typhoid fever are particularly prone to induce a bilirubinemia.

TABLE 7—*Manner in Which the Course of Jaundice Can Be Followed by Bilirubin Determination (Arsphenamin Patient)*

| No | Name | Bilirubin Parts per Million | Date | Comment |
|---|---|---|---|---|
| 1 | W D | 156 0 | 1/24/24 | Jaundice present |
| 2 | W D | 117 0 | 1/28/24 | Jaundice present |
| 3 | W D | 84.5 | 1/31/24 | Jaundice present |
| 4 | W D | 21 0 | 2/ 4/24 | Jaundice appreciably decreased |
| 5 | W D | 13 7 | 2/ 8/24 | Jaundice appreciably decreased |
| 6 | W D | 6 5 | 2/13/24 | Jaundice appreciably decreased |
| 7 | W D | 3 5 | 2/18/24 | Jaundice very slight |
| 8 | W D | 1 1 | 2/21/24 | Jaundice very slight |
| 9 | W D | 0 7 | 2/25/24 | Jaundice (clinical) gone |

Bernheim [4] contributes an article on the icteric index as an aid in diagnosis and prognosis, employing a colorimetric determination of the blood bilirubin by comparison with a standard solution of potassium dichromate She concludes that the icteric index is an accurate measure of the degree of bilirubinemia it is an aid in the diagnosis and prognosis of a number of diseases, and discloses the presence of latent jaundice, it differentiates the hemolytic from the nonhemolytic types of anemia, it shows whether the jaundice is static, increasing or decreasing, it has been found to be high in malaria and still higher in typhoid fever, bilirubinemia is frequently present in cardiac diseases

## METHOD EMPLOYED

The concentration of bilirubin in the blood was determined by van den Bergh's [5] method Specimens showing a hyperbilirubinemia also gave the direct diazoreaction, the quantitative method, being the indirect diazoreaction, indicates excess of bilirubin due to either obstructive or nonobstructive (hemolytic) jaundice

In some instances (this condition was specific for the normal values only), an hour or longer was required before a color was produced In others, as the tables indicate, no color was obtained, in other words, the bilirubin was probably below 0 5 part per million

[4] Bernheim Alice R The Icterus Index J A M A 82 291 (Jan 26) 1924
[5] Van den Bergh A A H Presse med 29 441 (June 4) 1921

## CONCLUSIONS

1 The van den Bergh test constitutes a delicate method for the quantitative determination of bilirubin in the blood serum

2 This test will often disclose pathologic amounts of blood bilirubin before clinical evidences of jaundice are present

TABLE 8—*Manner in Which the Ascent and Descent of Jaundice Can Be Followed by Bilirubin Determination (Arsphenamin Patient)*

| No | Name | Bilirubin Parts per Million | Date | Comment |
|---|---|---|---|---|
| 1 | W M | 46 8 | 1/24/24 | Hepatorecidive patient with a neglected syphilis who had received four injections of neo-arsphenamin |
| 2 | W M | 84 5 | 1/31/24 | |
| 3 | W M | 130 0 | 2/ 4/24 | Jaundice increasing |
| 4 | W M | 175 5 | 2/ 7/24 | Jaundice increasing |
| 5 | W M | 136 5 | 2/10/24 | |
| 6 | W M | 149 5 | 2/14/24 | |
| 7 | W M | 81 9 | 2/18/24 | Jaundice increasing |
| 8 | W M | 18 9 | 2/25/24 | |
| 9 | W M | 5 9 | 2/28/24 | Slightly jaundiced |
| 10 | W M | 1 6 | 3/ 3/24 | Slightly jaundiced |
| 11 | W M | 1 0 | 3/ 6/24 | Jaundice gone |

3 Owing to the vulnerability of the liver to arsphenamin and the not infrequent development of jaundice as a complication, it is suggested that bilirubin determinations be made from time to time in patients receiving arsenical therapy as a guide to the toleration of the drug by the liver

4 It is believed, that, by this procedure, liver damage may in some cases be averted

5 There is no relationship between the number of injections of the arsenicals and the incidence of bilirubinemia Hypersusceptibility, for reasons as yet unexplained, appears to be an important factor

TABLE 9—*Subsidence of Bilirubin to Normal After a Rest Period*

| No | Name | Bilirubin Parts per Million | Date | Comment |
|---|---|---|---|---|
| 1 | W S | 0 7 | 1/14/24 | Received 12 injections of neo arsphenamin |
| 2 | W S | 1 3 | 1/24/24 | Received 14 injections of neo arsphenamin |
| 3 | W S | 2 3 | 1/28/24 | Received 15 injections of neo arsphenamin |
| 4 | W S | 1 0 | 3/ 6/24 | After rest period |

6 Bilirubin examinations appear to be valuable in determining when a damaged liver will permit the resumption of treatment and the effect of such treatment on that organ

1402 Spruce Street

**Cause of Epidemic Encephalitis**—Henceforth we shall take for granted that before the breaking out of an encephalitis epidemic the virus already existed in attenuated form in the saliva and in some common manifestations, such as herpes and herpetic angina Following a progressive or more or less sudden increase in its pathogenic power, the germ which showed an almost exclusive epitheliotropic affinity has acquired a new property that of attacking the nervous cells of the mesocephalon (neurotropic affinity) It thus brought on von Economo's disease under its epidemic form, and also thrived in the saliva of germ carriers The herpes virus, salivary and encephalitic viruses are but mere variations of a single germ inconstant in its pathogenic power —C Levaditi

# MERCUROCHROME-220 SOLUBLE INTRAVENOUSLY IN CHRONIC GONORRHEA AND COMPLICATIONS

## REPORT OF TEN CASES TREATED AT THE OHIO STATE PENITENTIARY

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Mercurochrome-220 soluble is "the disodium salt of 2 7-dibromo-4-hydroxymercurifluorescein, containing 23 to 24 per cent of mercury"[1] It is a strong and rapidly acting germicide, originally devised as a potent local antiseptic Its value as an irrigant in gonococcus urethritis, cystitis and infections of the kidney pelvis has been thoroughly demonstrated Piper's[2] idea of the intravenous injection of mercurochrome for the purpose of rendering the blood stream bactericidal in puerperal sepsis was a new field for its use, and one of his concluding statements stands forth impressively "A solution of mercurochrome given, intravenously, in the proper dosage, appears, in some cases, to be of great value and to have no deleterious effects" Later, Young and Hill[3] reported its intravenous use in the treatment of septicemia and local infections They state that, in two cases, "the results were almost miraculous, the patients being verily snatched from the jaws of death"

The terrible ravages of gonococcal infections in both men and women, with the resultant pathologic effects, and the inadequacy of the usual treatments in vogue, provided stimuli for the idea of some means whereby the total body fluids could be rendered bactericidal to invading gonococci

With the results obtained in the treatment of general infections by the men mentioned above, there occurred the idea of the intravenous use of mercurochrome-220 soluble in the treatment of chronic gonorrhea

With this idea in mind, ten patients were placed on intravenous mercurochrome treatments Five of these had a profuse discharge of pus escaping from the urethra The remaining five had the characteristic gleet type of discharge *Diplococcus gonorrhoeae* was demonstrable at some time in all cases under my care, save one, and this one case presented a typical history and symptoms of infection

Routine treatment consisted of hospitalization during the time of intravenous therapy, physical and kidney functional examination and urinalysis A saline cathartic was given, this has since been omitted, owing to excretion of the drug in fluids drawn from the body Food was omitted six hours before and after injection

The dosage was regulated according to the physical condition and body weight, and was given in gradually ascending amounts, in most cases The lowest and highest initial doses were 2 and 5 mg per kilogram of body weight, respectively The size of the dose, apparently, did not determine the severity of the reaction, which was manifest by chill, nausea, occasional emesis, joint pains and fever The febrile reaction sometimes mounted to 105 F, but invariably reached its crest by the sixth hour after injection In none of the ten cases did any inhibiting factor appear save stomatitis, which was usually regarded as a signal for the termination of mercurochrome treatment

The preparation used was freshly prepared[4] 1 per cent mercurochrome-220 soluble in distilled water, given with the precaution and procedure usual to intravenous therapy Two hours after administration, the presence of mercurochrome could be demonstrated in the saliva, tears, blood serum, gastric contents, feces and urine

Four patients received no previous treatment

CASE 1.—*Chronic gonorrhea* A white man, aged 22, admitted to treatment, March 10, 1924, had gonorrhea of sixteen months' duration There was history of cohabitation with a known infected woman, three times since There was a profuse discharge, showing myriads of gonococci and staphylococci The kidney functional test gave 225 c.c., 35 per cent, in two hours Five doses of mercurochrome, ranging from 2 to 4 mg per kilogram of body weight, were given intravenously daily There were moderate reactions after all injections There was an astonishing decrease of pus secretion after the first injection, and gradual diminution thereafter The absence of organisms was complete after the third injection Stomatitis developed on the sixth day of treatment, and intravenous therapy was discontinued Instrumentation and silver nitrate failed to secure any evidence of infection on and after the eighth day No other treatment of any kind was given this patient, and he has remained free from any symptoms of gonococcic infection to date, May 3, 1924

CASE 2.—*Chronic gonorrhea of five months' history* A white man, aged 24, admitted to treatment, March 10, 1924, had a profuse secretion There was a mixed infection of gonococci and staphylococci No treatment, save unknown tablets by mouth, had been taken for sixty days previous Four daily doses of mercurochrome, ranging from 2 to 4 mg per kilogram of body weight, were administered Appreciably less pus was excreted after the first injection Smears were negative for organisms after the third day There was cessation of pus on the fourth day Stomatitis occurred after the third dose, and attained moderate severity on the sixth day The patient had a very severe initial reaction The maximum elevation of temperature, 105 F, was noted after the last injection Instrumentation failed to provoke any discharge after the seventh day The patient has remained free from any manifestation of gonorrhea No other treatment was given

CASE 3.—*Chronic gonorrhea, primary syphilis* A white man, aged 32, admitted to treatment, April 7, 1924, had extreme preputial edema, multiple chancres of the glans penis, and a copious urethral discharge, showing myriads of typical gonococci An initial dose of 5 mg per kilogram of body weight was given, after which there was a very noticeable subsidence of the urethral discharge Two additional doses of 4 mg were given at two-day intervals Gonococci were undemonstrable after the fourth day There was entire cessation of pus by the seventh day, with a reduction of the prepuce to nearly the normal size A complete healing of lesions occurred There has been no evidence of gonorrhea since *No local* therapy was given

CASE 4.—*Chronic gonorrhea of twelve months' history* A colored man, aged 38, admitted to treatment, March 21, 1924, had a profuse pus discharge, positive for gonococci Four daily doses of mercurochrome from 2 to 4 mg per kilogram of body weight were administered Severe stomatitis occurred after the last dose Organisms disappeared after the second injection, and there was a steady decrease of pus daily The "morning drop" persisting, urethral instillation of 2 per cent mercurochrome was resorted to for eight days No subsequent *symptoms have occurred*

Six patients had had previous treatment for gonorrhea

CASE 5.—*Chronic gonorrhea with vesiculitis* A white man, aged 28, admitted to genito-urinary treatment, Jan 17, 1924,

1 New and Nonofficial Remedies, 1924, p 205
2 Piper, E B The Treatment of Puerperal Sepsis by the Use of Mercurochrome Intravenously, with a Report of Animal Experimentation in the Chemical Disinfection of the Blood, Am J Obst 4 532 (Nov) 1922
3 Young, H H, and Hill Justina H The Treatment of Septicemia and Local Infections, J A M A 82 669 (March 1) 1924
4 An unavoidable error resulted in four patients receiving mercurochrome solutions that were not freshly prepared, in more than one half of the total amount administered Three of these patients are of the requiring subsequent treatments

had contracted gonorrhea in October, 1923 Routine gonorrhea treatment was given to March 22, 1924, when mercurochrome intravenous therapy was begun, 2, 2 5 and 3 mg being administered at forty-eight hour intervals The usual rapid termination of subjective symptoms followed Tests were completely negative after the sixth day No symptom was provokable The patient is apparently cured

CASE 6 —*Chronic gonorrhea, cystitis,* B coli A white man, aged 40, admitted to treatment, Dec 29, 1923, yielded a positive smear He was placed on mercurochrome, March 13, 1924 Four graduated doses were given Stomatitis terminated treatment A pus discharge persisting, local treatment was resumed to April 25 There was no further evidence of gonorrhea

CASE 7—*Chronic gonorrhea* A white man, aged 33, admitted to treatment, Feb 1, 1924, gave a positive smear Mercurochrome therapy was instituted, March 13 He received 7 mg per kilogram of body weight, divided into three doses Severe stomatitis precluded further intravenous medication A morning drop" has persisted Local treatment was given

CASE 8—*Chronic gonorrhea* A colored man aged 28, admitted to routine clinical treatment, Feb 28, 1924, gave a positive smear Mercurochrome was administered in 2 and 4 mg doses Stomatitis developed after the second dose Treatment was stopped There was termination of the discharge, the day after the last treatment There has been no recurrence, and no supplemental treatment was given

CASE 9—*Chronic gonorrhea mild prostatitis* A white man, aged 30, admitted to routine treatment, Dec 12, 1923, gave a positive smear The discharge was continuous to March 22, 1924 Mercurochrome intravenously was begun, 10 mg in four graduated doses being administered Stomatitis prevented further mercurochrome Local instillation was resorted to for ten days until cessation of the "morning drop" Tests were negative, May 3, for any sign of gonorrhea The prostate was normal

CASE 10—*Chronic urethritis* A colored man, aged 30, admitted to local treatment Nov 22, 1923, had contracted gonorrhea in January, 1923 No apparent impression was made on pus secretion which was continuously negative for organisms Mercurochrome therapy was begun with a 2 mg dose Subsequent amounts of 2 and 4 mg were given No provocation could evoke any sign of infection to May 3, 1924

SUMMARY

In ten of the cases cited, nine patients had positive gonorrheal smears, at some time, while under my care, and all gave typical histories

The shortest case history was two months, and the longest, sixteen months

The average total amount of mercurochrome administered was 9 6 mg per kilogram of body weight

The average time required for the complete disappearance of pus, in cured cases, was eight days Six patients were discharged as cured, at the expiration of mercurochrome therapy In two cases, a brief resumption of local antisepsis (eight and eleven days, respectively) was necessary, while the two remaining patients are still under local treatment

The use of the word "cure" in this article is to denote cessation of all accepted symptoms of infections, and the inability to reproduce these symptoms by instrumentation and the injection of 1 per cent silver nitrate solution into the urethra

The rapid subsidence of symptoms in all, and the abrupt termination of symptoms in some cases, was almost incredible to one accustomed to the usual slow methods of gonorrheal treatment

The results obtained are ascribed not only to the germicidal action of the mercurochrome, but, probably, as well to the inhibiting influence of the continued high temperature of reaction

# TUBERCULOUS MENINGITIS SIMULATING EPIDEMIC ENCEPHALITIS

## REPORT OF A CASE *

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Notwithstanding the fact that the differential diagnosis between tuberculous meningitis and epidemic (lethargic) encephalitis, as given in most textbooks, appears to give little difficulty, in actual practice a correct diagnosis is frequently impossible This is especially true in cases occurring in adults who have been in good health previous to the infection As is well known, tuberculous meningitis may occur at any age, although it is most frequently seen in childhood The onset is usually gradual, with signs of a vague and, frequently, slight illness There is usually a rise in temperature, headache, vomiting and, frequently, constipation The pulse is slow and irregular, although it may be rapid at the onset After a variable period, the patient exhibits dulness, drowsiness, lethargy or stupor Convulsions may occur, and at times there may be rhythmic contractions of various muscle groups On examination, the muscles of the neck may present rigidity, with resulting retraction of the head The cranial nerves are frequently involved, owing to the involvement of the meninges at the base of the brain by the tuberculous process As a result, various palsies occur, especially palsies of the ocular muscles Kernig's sign is often present In seventeen of twenty-three cases of tuberculous meningitis in adults in whom this sign was looked for, Landis states, it was present to a marked degree in fourteen and definitely absent in three [1] The reflexes are variable The correct diagnosis depends on a painstaking examination of the cerebrospinal fluid The fluid is usually under pressure, clear or turbid, often forms a clot on standing, and shows a reduction of normal sugar A pleocytosis with a high proportion of lymphocytes is a common finding The demonstration of tubercle bacilli by stained smears or by animal inoculation is, however, conclusive The illness is usually fatal within a period of three weeks The close clinical similarity to certain forms of epidemic encephalitis will be seen from an epitome of the chief features of this disease

Epidemic encephalitis may occur at any age It is more prevalent in the winter months The onset may be insidious or abrupt, and usually appears as a general infection, followed by nervous manifestations Symptoms indicative of lesions of the brain, particularly the gray matter of the basal ganglions and brain stem, are important features of the disease Headache and double vision are common Paralysis of any cranial nerve may be encountered, but involvement of the third, fourth and sixth is most frequent Lethargy, while occasionally absent, is present in the majority of cases, in which instances the patient can be easily aroused Irritability often occurs Delirium is a common symptom Myoclonic movements of various muscle groups may occur Meningeal symptoms may be present The reflexes are variable

The cerebrospinal fluid is usually clear The pressure is normal or slightly increased The cell content is

* From the Department of Medicine Service of Dr Thomas McCrae Jefferson Medical College

* Read before the Section on General Medicine of the College of Physicians of Philadelphia April 28 1924

1 Landis H R M M Clin N Am 3 137 (March) 1920

normal in about one third of the cases, while in the remainder there is a pleocytosis averaging 20 to 30 cells per cubic millimeter, the lymphocytes predominating The reducing bodies do not disappear, and the globulin may be normal or slightly increased

The course of the disease is usually irregular and prolonged With severe symptoms, the termination may be rapidly fatal, while if the disease extends beyond a period of three weeks, recovery is probable There is often a recurrence of symptoms Permanent changes in various parts of the nervous system, with resultant symptoms, may occur as sequelae It will therefore be seen that the diagnosis depends on careful and repeated examinations of the cerebrospinal fluid

### REPORT OF CASE

A C, a woman, aged 22, Italian, housewife, mother of two healthy children, had been ill for seven days before coming under observation, Feb 18, 1923, when she complained of severe headache, double vision, difficulty in speech and pain in the right arm On the second day of her illness, her speech became unintelligible On the following day her hearing became impaired The double vision, at first transitory, became persistent on the third day of her illness The fever was present from the time of onset Of interest in the personal history was the fact that the patient had a cough, which had persisted for the last six or seven years, and which became aggravated during the winter months The cough was slightly productive, but hemoptysis had never occurred In April, 1922, she had an attack of pleurisy with effusion on the right side, for which she was tapped

When first examined, the patient was well nourished, and was stuporous in appearance, but she became noisy occasionally The pupils were dilated, regular in outline, and reacted sluggishly to light There was convergence of the eyes Visible pulsation was evident at the suprasternal region The muscles of the neck were not rigid The chest examination was negative The heart was negative for pathologic findings, except for an accentuation of the aortic sound The heart and pulse rate was 120 a minute The tension of the radial pulse was increased An examination of the abdomen revealed no abnormality The extremities were fully extended, and on examination showed a tendency toward Kernig's sign in the left leg The temperature was 102 F and the blood pressure was 130 mm systolic and 80 mm diastolic

Three days later the patient was admitted to the hospital The temperature was 103 4 F, the pulse, 120, respiration, 24 a minute She was quiet, and obeyed simple commands The convergent squint became pronounced The day following admission, the convergence was more marked in the left eye A slight palsy on the left side of the face was noted

The ophthalmologic examination, by Dr Charles R Heed, revealed the media clear, the disk margins slightly blurred The veins were full and moderately tortuous The retina was visible, and edema apparently was present The pupils measured 5 mm, and reacted promptly to light and in convergence External rotation was impaired in both eyes, indicating a double sixth cranial nerve palsy

The fluid obtained by lumbar puncture at this time was not under increased pressure The fluid was slightly turbid The globulin was much increased Fehling's solution was not reduced The cell content was 405 cells per cubic millimeter, the large mononuclears predominating The Wassermann reaction was negative On this date the patient showed generalized rigidity

Five days after admission, the patient's cerebral symptoms became aggravated There were alternating periods of restlessness and stupor The convergent squint became still more marked, and the facial palsy on the left side became more pronounced Definite ptosis of the left eyelid appeared, and a slight ptosis of the right eyelid was noted The muscles of the neck became rigid, but there was no marked retraction of the head The reflexes were variable, but in general diminished No Kernig's sign or Babinski's reflex could be elicited Ankle clonus could not be demonstrated The patient kept the legs now in a flexed position There was no evidence of myoclonic contractions The temperature was 104 F, the pulse, 130, respiration, 28 a minute

At the second lumbar puncture the fluid was under pressure, and slightly turbid Fehling's solution was not reduced, and globulin was increased The cell count was 430 per cubic millimeter Tubercle bacilli were demonstrated for the first time A sixth and third cranial nerve palsy on the left side was present The blood Wassermann and urine examinations were negative Eight days after admission to the hospital, the patient died

### SUMMARY AND CONCLUSION

The patient exhibited multiple cranial nerve involvement, lethargy, absence of muscular rigidity of the neck, and absence of Kernig's sign

Tubercle bacilli were present on the second examination of the cerebrospinal fluid

This clinical history emphasizes the importance of careful and repeated examinations of the cerebrospinal fluid for tubercle bacilli in patients exhibiting the symptoms of epidemic encephalitis

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# MISTAKEN DIAGNOSES IN INFANTS AND CHILDREN*

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The opportunity to check clinical diagnoses with necropsy findings is available to all hospitals with an active pathologic service Reports, however, are infrequent, and the analysis here presented, from the New York Nursery and Child's Hospital, covering a period of three years, is presented with the hope that it will lead to similar studies

Cabot's [1] contribution is well known, and any one intending to pursue such studies will do well to heed his admonitions He says in part

> It is not a simple matter to collate antemortem and post mortem data in an intelligent way One cannot simply read off the clinical diagnoses and note their correspondence or lack of it with the anatomic findings, for
>
> 1 It is often obvious when one reads the clinical record that the diagnosis has been copied from the autopsy protocol
>
> 2 The clinical diagnosis may be so abbreviated as to omit important facts known during life
>
> 3 In some cases it has been clear, after a little study, that the clinical diagnosis actually written in the records had been hurriedly filled in by an intern and did not represent the opinion of the attending physician
>
> My comparisons, then, have been far from literal In each case I have gone behind the recorded diagnoses and endeavored to reason out what diagnosis was justified by the facts as known during life

All of the foregoing wise counsel applies equally well to the pediatrician in his studies with infants and children Too many difficulties are inherent in the study of mistaken diagnoses to permit of anything less than a complete review of each case, if the results are to have any value The chief of these difficulties is, What is a mistake?

The following cases illustrate this

A child was brought in and the diagnosis was bronchopneumonia Clinical and roentgen-ray evidence was complete Necropsy findings showed, however, that in addition to the

* From the Department of Pediatrics, Cornell University Medical College

1 Cabot, R C A Study of Mistaken Diagnoses, J A M A 33 1343 (Oct 15) 1910

bronchopneumonia there was also a hydronephrosis of one kidney, which had never even been suspected because the urinary findings were no more than one would expect in a severe febrile condition

A boy, aged 6 years, was brought into the hospital because of certain neurologic changes He was examined by several neurologists, but no definite diagnosis could be made At necropsy the entire brain was as hard as though it had been in formaldehyd for three days, the only analogous pathologic condition even approaching it being the changes seen in amaurotic family idiocy

Such cases are extremely difficult to catalogue, but it is hardly fair to demand the solution of problems which, for the present at least, are beyond the scope of a hospital, in judging its efficiency in making correct diagnoses

Over a period of three years, 426 necropsies were done Of these, sixty were from the obstetric service, and had not been seen by members of the pediatric staff, twenty-two were classified as unsatisfactory, seventeen patients died either in the admitting room or within twenty-four hours Of the 327 remaining cases, the necropsy protocols agreed with the clinical diagnoses in 263 instances, or 80 per cent

### THE WRONG DIAGNOSES

Three groups stand out prominently in the mistakes, and deserve special consideration These are prematurity, bronchopneumonia and acute intestinal intoxications No less than sixty of the eight-one mistakes, and, for this part of the study, those cases in which the patient died within twenty-four hours are included, were in these conditions Granting that this might be expected from mere numerical preponderance, it is no less incumbent on those in charge of infants and children to bear them in mind

### PREMATURITY

It is taught that the three essentials in the care of premature babies are to provide breast milk, to maintain body heat, and to prevent infection All are of equal importance, but it is doubtful whether the last is given the consideration it deserves A study of the nineteen necropsies that did not agree with the clinical diagnoses in a series of forty-one premature infants shows that nine respiratory infections, eight cerebral or other body hemorrhages, one ulcerative colitis and a porencephalus were not recognized

This brings out in striking fashion that the chief problem confronting the physician is the prompter recognition of respiratory infections and hemorrhagic conditions Corollary, of course, and of equal importance, is their prevention

That but one case of colitis was missed does not necessarily mean that the physician is less likely to overlook this condition, although this is undoubtedly true, as demonstrated in the difference between the mortality due to gastro-intestinal diseases and that due to other diseases With breast milk available, the former are kept at a minimum, but to care for the latter requires the strictest sort of aseptic technic on the part of both physician and nurse, with the complete elimination of all visitors Of the three essentials, it cannot be gainsaid that the infections loom large in the picture

The overlooking of eight hemorrhagic conditions in premature infants focuses attention on a situation which fortunately is attracting the attention it deserves Cerebral and other hemorrhages occurring in the course of protracted labors have held the center of the stage too long, and it is encouraging to note the studies that are appearing in the literature dealing with this particular problem

One cannot but agree with Ehrenfest's [2] plea for the recognition of the fact that the prophylaxis of intracranial hemorrhages in the new-born concerns most of all the obstetrician One should not minimize the importance of what one conceives to be the duty of the obstetrician, but that there is another side to the question, and a vastly important one, is evident When in a series of forty-one necropsies on premature infants, there were eight brain hemorrhages that were not even suspected, it is high time to take stock of the situation

It does not seem possible that physiologic trauma is so frequently at fault in the premature infants, even admitting that it is possible in a spontaneous delivery to have this of such force as to cause a laceration of the dura mater

### BRONCHOPNEUMONIA

Respiratory infections form the second large peak of mistaken diagnoses Of the eighty-two clinically diagnosed cases of bronchopneumonia that came to necropsy, it was not present in eight, and of these three were premature infants With this disease, the difficulty was to recognize complications The complications that were missed were empyema, four, general miliary tuberculosis, four, suppurative meningitis, three, peritonitis, one, double mastoiditis, one, hypertrophied thymus, one, hydronephrosis of kidney, one

Why were these complications missed? Probably the greatest single factor was the age of the patient The younger the infant, the more rapid was the development of the complications, frequently with an utter absence of the signs and symptoms by which it might have been recognized With a single exception, all in this group were under 1 year, and half of them were under 4 months of age

The missed cases of general miliary tuberculosis require a special word Under 2 years of age, by far the great majority of these cases are diagnosed by a positive tuberculin test and a roentgenogram of the chest One of the fundamental truths in the use of tuberculin skin tests is that in a certain percentage of overwhelming infections the reaction is negative This happened in three of four cases, and was directly responsible for the failures

The missed peritonitis cases demonstrated, as did the empyemas, the insidious way in which suppurative processes proceed in early infancy, without giving any hint of their presence

In the pneumonia series there was one case of an enlarged thymus in an 11 months old infant This suggests the interesting question as to the part that status lymphaticus plays, especially in the so-called fulminating pneumonias

It is more than likely that a fairly large percentage of the pneumonias that progress rapidly to a fatal termination within forty-eight hours of the onset are of this type The association of status lymphaticus with sudden death is familiar What, perhaps, is not taken full cognizance of is the fact that there must be certain children who are in a recessive stage, and while the onset of an acute infection may be no different than in the average child, yet the course of that infection may be so modified that a marked virulence is attributed to the infecting organism while, as a matter of fact, the host itself is primarily responsible.

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2 Ehrenfest Hugo The Causation of Intracranial Hemorrhages in New Born Am J Dis Child 26 503 514 (Dec.) 1923

### ACUTE INTESTINAL INTOXICATIONS

As in the respiratory group, the difficulty was the prompt recognition of complications The outstanding feature of the necropsies in these cases that were missed was the overwhelming preponderance of lung infections, no less than thirteen presenting such demonstrable pathologic changes Eleven of the patients had bronchopneumonia, one a pyopneumothorax, and one a hilum tuberculosis

If it is argued, and the argument is sound, that most of these are terminal infections, yet none the less must we recognize that our problem is twofold Not only must immediate remedies for the presenting phenomena of dehydration be instituted, but the high incidence of respiratory infections must constantly be borne in mind Every measure must be taken to prevent such developments

The question as to how many of the intoxications were secondary to a parenteral infection is an open one The majority in this series were not, although it must be remembered that many infections tend to disturb the water balance of the body

### PYLORIC STENOSIS

The differential diagnosis of pyloric stenosis does not ordinarily cause much concern, especially if we admit the contention of many that spasm is always present Of the three cases so diagnosed which necropsy proved wrong, two were congenital abnormalities, and one presented no evidence of any obstruction Unfortunately, the two patients with congenital abnormalities died before any roentgen-ray reports were available, and as one of these cases was diaphragmatic hernia, it was particularly unfortunate from a diagnostic standpoint

The majority of patients with pyloric stenosis seldom vomit before the third week, and, conversely, the congenital abnormalities begin before that time But, and this is what makes the differential diagnosis of vomiting cases in the first weeks of life difficult, a certain percentage of the malformations give signs of intermittent obstruction Two in our series, one a diaphragmatic hernia and the other a malrotation of the colon, were typical The lesson to be learned from these necropsy reports is that, in every vomiting infant, it is of paramount importance to rule out a congenital malformation

### MISCELLANEOUS

There were isolated cases in which mistakes had been made, such as a failure to recognize multiple lung abscesses in an infant who had a severe suppurative adenitis of the neck, but these do not lend themselves to any particular study, because they were too few The outstanding feature of them all was not the failure to make a correct original diagnosis, but the absolute missing of the complications

### CONCLUSIONS

1 Eighty per cent of cases coming to necropsy in which the patients had been at least twenty-four hours in the hospital had been fully and correctly diagnosed

2 The three groups that showed the largest percentage of error were prematurity, bronchopneumonia, and acute intestinal intoxication

3 Complications develop so insidiously, especially in infants, that it is the failure to recognize them that leads to the greatest number of diagnostic mistakes

4 In the differential diagnosis of pyloric stenosis, the possibility of congenital abnormalities must be fully considered

39 East Sixty-First Street

# OBSERVATIONS IN A CASE OF JEJUNAL FISTULA*

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ST LOUIS

A case of high complete intestinal fistula has offered an opportunity for making observations on the functional activity of the upper intestinal tract, some of which have a bearing on modern interpretations of gastro-intestinal physiology

### REPORT OF CASE

A man, aged 38, suffered a severe crushing injury of the jejunum, Oct 22, 1923 Dr G H Copher, at the St Louis City Hospital, resected about 2 feet of intestine and brought the free ends out of the abdomen, as an emergency measure About 4 feet of jejunum remained above the fistula After a stormy course, requiring two blood transfusions, the patient reacted slowly He came under the care of one of us (E P L), Nov 1, 1923, because of alternation of services At this time, the acute symptoms were subsiding, and the problem became for the time wholly dietary We were confronted by a situation in which the patient had lost practically his entire absorptive mechanism when fed by mouth, and his entire digestive mechanism when fed by tube placed in the lower loop of bowel The constant aim in our minds was to build him up to a degree permitting closure of the fistula This attempt ultimately failed, and the patient died of general peritonitis, Jan 20, 1924, two days after an end to end anastomosis of the bowel

The difficulties of feeding rationally in a busy general service soon became clear, so that, November 25, one of us (H V G) took over the feeding problem This task necessitated almost constant bedside attention, in the course of which the observations recorded here were made They may be divided into observations on the motor, vasomotor and secretory phenomena It was found impossible to make accurate digestive observations on account of the irregularity of the motor and secretory responses, as will be seen later In interpreting the data obtained, it must be remembered that the physiologic processes were subjected to abnormal conditions by (1) the loss of 2 feet of bowel and (2) the persistence of an inflammatory process in the walls of the bowel and in the peritoneum

A survey of the diet at the time when accurate observations began showed that the patient was receiving peptonized whole milk by tube into the lower loop of exposed intestine, together with one fresh triturated pancreas from a pig, each day Twenty per cent glucose solution made up the remainder of the diet Approximately a thousand cubic centimeters each of milk and glucose was being given, divided into feedings given every two hours The milk was administered through the day as nearly as possible at the time of giving the pancreas Food had been given by mouth previously, but this had been abandoned on account of its apparently total loss through the fistula It was evident that this regimen did not offer sufficient antiscorbutic elements,[1] and also that there were no biliary secretions present in the lower loop to aid in fat digestion and absorption The effect of the latter deficiency was a fatty diarrhea Later in the course of the case, a diarrhea occurred from too much glucose in the intestine

The first change in the feeding was to give a more varied diet in more concentrated form at longer intervals Also, steps were taken to supply hepatic secretion to the site of digestion by the administration of oxgall[2] Eggs were added to the diet, with cream and a little olive oil A fatty diarrhea developed in a more pronounced form than formerly, so that fats were removed from the diet and more eggs and glucose were given to make up the caloric requirements When the diarrhea subsided, which it did at once, a plan was adopted for utilizing the patient's own digestive enzymes, which were being lost

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1 Chick, Hume and Skelton J Biol Chem 12 1918
2 Rous Peyton, Broun, G O and McMaster P D J Exper Med 37 395, 421 (March), 37 685, 699 (May), 37 733 (June) 1923

through the fistula Food was given by mouth, and the resultant succus entericus appearing at the fistula was collected with a syringe and mixed with the food to be injected into the lower loop of the bowel The food given by mouth was chosen with regard to its digestibility and its stimulating effect on the digestive secretions For this purpose, buttered bread, milk and soft cooked eggs were used, with the occasional addition of meat extractives or a little meat[3]

As this plan of feeding, with the addition of orange juice to the food, seemed to improve the patient's digestion and his general condition, it was adhered to throughout the remainder of the observations The daily routine consisted of giving the patient a slice of buttered bread (preferably toasted), one soft cooked egg, and a glass of milk All the material subsequently appearing at the fistula was collected with a syringe and placed in a container with the food to be given later through the tube into the lower loop This was warmed The mixture of upper intestinal secretion and food was then divided into two portions and given at periods of from four to six hours into the lower loop The food given daily in this manner consisted of milk, 300 c c (200 calories), cream, 100 c c (180 calories), two raw eggs (140 calories), orange juice 100 c.c (50 calories), glucose, 90 gm (360 calories), lactose, 120 gm (480 calories), material from the upper loop, 600 c c (350 calories), total, 1,760 calories

Lactose was added because glucose used alone excited a fermentative diarrhea In addition to this food, the patient received daily about 500 c c of 20 per cent glucose solution, and enough water to keep the fluid intake up to approximately 2 500 c c[4] The daily calories ranged from 1,500 to 2,000 when all the food was retained This diet was theoretically sufficient for the patient's needs, and was all that he would retain in the distal loop without regurgitation However, it did not offer a satisfactory margin of caloric content above his basal requirements, so that marked improvement in nutrition could not be expected

After every feeding, the fistula was observed with the following phenomena in mind (1) The time of the appearance and the character of the motor activity of the bowel, (2) the time of the appearance and the intensity of the flushing of the mucosa, (3) the time of the appearance, the duration of the flow and the character of the digestive juices, (4) the results of observations

*Motor*—The motor reactions of the bowel were variable, and all the controlling factors had to be considered before any parallel could be drawn between the different observations After each feeding by mouth there would appear a peristaltic movement in the exposed upper intestine, followed soon after by movement of the lower intestine The time of the appearance of the proximal loop movement varied from three to forty minutes after feeding The interval between the appearance of peristalsis in the upper loop and its appearance in the lower loop varied from one to fifty minutes, and was invariably present The movements observed were of two varieties, one, a long tonic contraction, accompanied by the discharge of contents, and the other a short series of small, writhing, churning movements, unaccompanied by any discharge The shorter movements occurred at intervals usually of about one minute, while the longer contractions came about three to five minutes apart These movements are adequately described in detail by Cannon,[6] Carlson,[7] Alvarez,[8] Richter[9] and others[10] Richter has recently shown the long movements to be due to the contraction of the circular muscles, while the short peristalsis is due to the contraction of the longitudinal muscles of the bowel

The feeding of coarse food such as meat or the woody fiber of orange pulp, greatly intensified both types of movement, as did the feeding of doughy foods The patient was fond of soft bread, which invariably appeared at the fistula in doughy masses accompanied by hyperactive peristalsis Toasted bread, on the contrary, appeared at the fistula in much smaller particles with, of course, a relatively greater surface exposed to digestive action Parenthetically, the importance of this difference in its clinical application may be mentioned[11]

The observations on abnormal movements were not so consistent There were periods of unceasing effort on the part of the lower loop to expel the tube inserted into it If the tube was secured in place, these movements might persist for hours, with alternating short periods of rest and reverse peristalsis[12] This did not in itself cause the patient any discomfort, but these periods were most often associated with periods of general depression In the upper loop, reverse peristalsis with vomiting was definitely associated with psychic depression, fever or some form of mental disturbance on the part of the patient, as for instance after the opening of an abscess in the axilla[8] In addition, mechanical irritation of the jejunal mucosa of the upper loop resulted in a reversal of peristalsis Early in the case, an attempt was made to insert a catheter toward the duodenum from the fistula The patient became very much nauseated Later attempts were made, proceeding very slowly, without disturbing the patient It was noticed that when the catheter had passed in a distance of about 15 cm it seemed to meet obstruction[8] No amount of moving about could force it farther without causing nausea to the patient If, however, the tube was merely held in place for a minute or so without movement, it would suddenly move upward a short distance. It could then be inserted full length without meeting further obstruction In fact, if left in place it would often be dragged upward by intestinal movements, as if the intestine was trying to rid itself of the irritation by reverse peristalsis and expulsion through the mouth Attempts to drain the upper loop of bowel through a tube so placed were always unsuccessful, because the intestinal mucosa shut off the opening above and the contents were discharged around the tube Besides this, the tube exerted sufficient mechanical stimulus to cause nausea and vomiting, if left in place for any considerable time[11]

The time of the appearance of solid food as compared with that of liquids was made the object of several observations The results showed, on the average, appearance times of about twenty minutes for solid and semisolid foods, and about three minutes for liquids[6] The actual intervals were extremely diverse in each type of food During sleep there was a definite decrease in peristaltic activity[13]

*Vasomotor*—Vasomotor changes in the exposed loops of intestine were constant After the ingestion of food by mouth, there appeared, at intervals varying from five to twenty minutes a change in the appearance of the mucosa[14] The resting pink color would darken and change to a purplish of greater depth Small venules could be distinguished as a fine network, and the whole mucosa took on a translucent appearance. The appearance of this vasomotor change, like the motor phenomena, always took place in the upper loop first From five to twenty minutes would elapse before the change in the lower loop followed The flush lasted from thirty to fifty minutes, fading out gradually The time of the appearance and the duration of these phenomena roughly paralleled those of the motor activity of the bowel

*Secretory*—There was never any appreciable amount of secretion from the upper loop except after a mouth feeding The normal secretion appeared to be black bile (from the gallbladder?) at first, then after a few minutes, the color would change rather abruptly and the rest of the fluid would be light yellow During the early part of the flow the fluid was usually thick and mixed with considerable mucus The largest amount of fluid was secreted in response to meat or meat extractives[15]

3 Mathews A P Physiological Chemistry New York William Wood & Co, 1920 Pawlow The Work of the Digestive Glands London C Griffith Company Ltd 1910

4 Mathews (Footnote 3)

5 Lusk Science of Nutrition Philadelphia W B Saunders Company 1921

6 Cannon Mechanical Factors of Digestion New York Longmans Green & Co 1911

7 Carlson Control of Hunger in Health and Disease Chicago University of Chicago Press 1916

8 Alvarez The Mechanics of the Digestive Tract, New York Paul B Hoeber 1922

9 Richter Action Currents from the Stomach Am. J Physiol 67 612 (Feb) 1924

10 Boldyreff Bulletin of Battle Creek Sanitarium 19 49 (Dec.) 1923

11 Hertz, The Sensibility of the Alimentary Tract Goulstonian Lecture 1911 London Henry Frowde Hodder Stoughtan 1911 Richter (Footnote 9)

12 Busch W Arch f path Anat. 14 1862

13 Alvarez (Footnote 8) Trephones—Growth Promoting Substances editorial J A M A 82 509 (Feb 16) 1924

14 Howell Textbook of Physiology Ed 8 revised Philadelphia W B Saunders Company 1923 Stewart Manual of Physiology Philadelphia W B Saunders Company 1923 Starling Recent Advances in the Physiology of Digestion Chicago Keener 1906

15 Mathews (Footnote 3) Beaumont Physiology of Digestion Burlington Goodrich 1847

One abnormal secretory phenomenon of interest was observed On one occasion, the patient felt nauseated throughout the day, after his usual morning feeding The flow of bile had been noticed to be thin and light yellow from the beginning A short time before the next feeding, the patient passed a large amount of black looking fluid from the upper loop, and at once felt relieved of his nausea It is supposed that he had retained gallbladder bile throughout the day He complained of no pain during this time

Several experiments, summarized in the accompanying table, were performed to observe the effects of acid and alkali on secretion [6] These were initiated at the suggestion of Dr W H Cole, who had been performing some related experiments not yet published The ingestion of dilute hydrochloric acid resulted in practically no secretory response, and the same was true of sodium bicarbonate If, however, the dilute hydrochloric acid was immediately followed by sodium bicarbonate or if the order of administration was reversed, there was a prompt and profuse flow of clear brown fluid This pointed to one of the interaction products as the stimulus To determine whether sodium chlorid or carbon dioxid was the stimulus, the former was then administered in a small amount of dilute solution (double normal) This procedure resulted at once in an equally profuse flow of fluid from the fistula The salt was not in sufficient concentration to cause an osmotic flow of fluid into the bowel These results, repeated several times, must be interpreted as being due to an actual secretory and motor stimulus by weak sodium chlorid solution They present a problem that we are subjecting to experimental study on the dog

*Typical Motor and Secretory Response to Ingested Acid, Alkali and Common Salt*

| Experiment | Stimulus | Amount | Response | |
|---|---|---|---|---|
| | | | Motor | Secretory |
| 1 | Tenth normal hydrochloric acid | 1 c c | 0 | 0 |
| 2 | Hydrochloric acid + sodium bicarbonate | 1 c c tenth normal hydrochloric acid + 1 gm sodium bicarbonate | ++++ | ++++ 100 c c clear brown fluid |
| 3 | Sodium bicarbonate | 1 gm | + | + Clear brown fluid |
| 4 | Sodium bicarbonate + hydrochloric acid | 1 gm sodium bicarbonate + 1 c c tenth normal hydrochloric acid | ++++ | ++++ Clear brown fluid |
| 5 | Sodium chlorid | 1 gm | ++++ | ++++ Clear brown fluid |

### COMMENT

Of these observations, two stand out as worthy of especial comment The first in importance is the time interval between the appearance of motor activity in the upper and in the lower loops Alvarez [8] has attempted to explain most peristaltic activity on the so-called gradient theory of muscular irritability and activity, minimizing whatever central control factors there may be Here, we have evidence that the stimulus in the upper loop is carried across an anatomic and physiologic gap in the bowel to the lower loop, causing peristalsis there, although there is no stimulus whatever applied locally to the lower loop This could hardly occur except by a central control mechanism, using the term to mean a mechanism coordinating the activity of separate segments of the bowel No nervous impulse could have been transmitted across the gap An electrical wave would have been transmitted without a time interval Furthermore, a central mechanism, sending stimuli which originate, let us assume, in a filled secreting stomach to the various segments of the bowel progressively caudad, would send stimuli also through the severed autonomics running to the absent 2 feet of bowel These lost impulses may be conceived to be represented by the time interval between the motor activity of the upper and the lower loops Further evidence of a central control mechanism was seen in the constant appearance of motor activity in the upper loop, soon after food was injected into the lower loop In any consideration of local versus central control of the gastro-intestinal tract, these observations must be kept in mind No similar observations have been met in the literature

The second point of interest, which also does not appear to have been previously noted, is the effect of sodium chlorid on secretion and peristalsis The marked activity of both under the influence of a weak saline solution (about double normal) by mouth was striking The absence of marked effect of acid or alkali separately has been noted On one occasion, the salt was given when the patient was nauseated, with a prompt flow of secretion and a prompt relief of the subjective symptoms This suggests a point of possible clinical value in reestablishing normal peristalsis when there is a tendency to reverse peristalsis

## ARTIFICIAL LIGHT THERAPY IN TUBERCULOSIS *

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SARANAC LAKE, N Y

The curative rôle of light in rickets and tetany is now commonly accepted Under the influence of light, the blood in rickets shows an increased phosphorus content, and calcium deposition in the epiphyses of the long bones readily takes place The blood in tetany shows an increased calcium and phosphorus content and, clinically, the disappearance of such symptoms as carpopedal spasms, laryngospasms and convulsions after a few exposures to quartz mercury vapor radiations Lupus vulgaris of the skin is healed by combined local and general light exposures in almost 90 per cent of cases Extrapulmonary tuberculosis in many forms yields to treatment with sunlight and artificial light radiations These results have been so clear cut in a large number of cases and yield so much promise that a knowledge of light and its clinical applications has become a requisite not only of the physiotherapist but also of the general practitioner

My own use of light therapy, both clinically and in laboratory experiments, since 1917, and the noteworthy results attained by such practice, has led to the presentation of this material Because of the broad scope of this field of therapy, only brief reference can be made to the more important facts

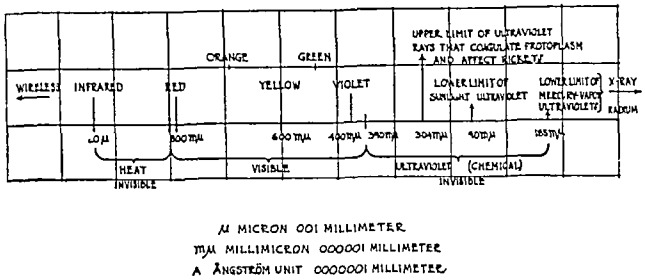
### PHYSICAL CHARACTERISTICS OF LIGHT

Figure 1 is a graphic representation of the divisions of the spectrum, showing the visible region limited on one end by the infra-red rays and on the other end by the ultraviolet rays It may be convenient to recall that the visible spectrum extends from about 800 millimicrons to about 400 millimicrons, the solar ultraviolet rays range from 400 to 290 millimicrons, and the ultraviolet rays of artificial light sources from 490 to 185 millimicrons Those of a source such as the carbon arc have as their lower limit 220 millimicrons, while those of the quartz mercury arc terminate at 185 millimicrons

* Read before the Harvard Medical Society, Jan 22, 1924

Vibrations of all wave lengths appear to possess some light, heat, and the ability to hasten or influence chemical reactions As a rule, however, heat production is chiefly associated with the infra-red and the red rays, light is chiefly associated with the range from red to violet, while the most active rays chemically are the ultraviolet, blue, indigo and violet

The infra-red rays are highly penetrative, while the ultraviolet rays possess this power only to a limited




μ MICRON 001 MILLIMETER
mμ MILLIMICRON 000001 MILLIMETER
A ÅNGSTRÖM UNIT 0000001 MILLIMETER

Fig 1—Divisions of the spectrum visible region limited by infra red and ultraviolet rays

degree The regions of the spectrum vary greatly in their degree of absorption in different substances Water vapor, for instance, absorbs infra-red rays to a very great extent Quartz and fluorite glass and clear distilled water are practically the only substances that do not absorb ultraviolet rays to a very great extent Ultraviolet rays lose about 60 per cent in intensity in penetrating the atmosphere before reaching the lowlands Ordinary window-glass absorbs ultraviolet rays below 330 millimicrons The ultraviolet rays between about 330 and 290 millimicrons are probably the best producers of pigmentation, and because of their absorption by window-glass it becomes most difficult to tan behind glass, other than quartz Snow, ice, water and sand increase ultraviolet intensity by reflection

### PHOTOCHEMICAL ACTION OF SEPARATE REGIONS OF THE SPECTRUM

Infra-red rays produce an immediate hyperemia and redness, which, however, soon disappears after the cessation of irradiation The deep penetration of these rays may cause deep heat action, although in guinea-pigs it has been shown that they are more likely to produce cutaneous blebs The visible rays provoke light, heat and metabolic changes However, the visible red (heat) rays are more likely than the infra-red rays to elevate subcutaneous temperature

Ultraviolet rays are rapidly absorbed by most tissues to a depth, however, of approximately only 1 millimeter, and produce marked chemical or actinic changes in accord with Grotthus's or Draper's law, namely, that "only those rays that are absorbed can induce chemical changes" Hemoglobin quickly absorbs ultraviolet rays, as well as those of longer wave lengths, up to approximately 450 millimicrons Blood serum also absorbs the ultraviolet rays, chiefly because of its tyrosin and tryptophan content

### ACTION OF ULTRAVIOLET RAYS ON PROTOPLASM

The brownian movement of colloidal particles quickly ceases on exposure to ultraviolet rays Egg and serum globulin is precipitated at the expense of albumin Lens-albumin previously sensitized by certain salts, such as calcium, sodium and magnesium, or by the silicates or dextrose, becomes susceptible to ultraviolet rays

Bacteria are rapidly destroyed by these rays, the bactericidal effect becoming more marked as the wave length decreases Temperature elevation increases this destructive action, while changes in the hydrogen-ion concentration appear to play no significant rôle

Red blood cells in vitro are quickly hemolyzed, probably because of the destruction of the lipoidal membrane This, however, does not occur in vivo Protoplasm may be so affected by ultraviolet radiation, and thereby become especially sensitive to heat radiations

A marked seasonal variation in intensity of solar ultraviolet rays exists, a phenomenon in some part correlative with the seasonal variation in the incidence of such diseases as rickets and tetany There may also be a seasonal variation in the rate of animal growth

The visible manifestations of tissue hyperemia due to ultraviolet radiation occur only after the lapse of a certain latent period (two hours or more) On repeated exposures, a product, melanin, is formed in the basal cells of the epidermis This may be due to the action of certain skin oxydases on a breakdown product of tyrosin, such as dioxyphenylalanin (Bloch)

Unicellular organisms are stimulated to certain physiologic changes, such as fission, or may be destroyed by ultraviolet radiation, depending on factors such as the intensity of the irradiation, the depth penetration of the wave length employed and the size of the organism Thus, very short ultraviolet rays penetrate only to the cytoplasm, whereas longer ultraviolet rays reach the cell nucleus Small doses of light appear to have a stimulating action, while larger doses produce deferred physiologic changes, and still larger doses may destroy such organisms

Fig 2—Filling defect in cecocolon in tuberculous colitis

### THE PHYSIOLOGIC ACTION OF LIGHT

Blood serum shows an increased calcium and phosphorus content under ultraviolet radiation in rickets and tetany As a result there is an increased calcium deposit in the epiphyses of the bones in rickets, due in all probability to an increased absorption of calcium from the intestines

Under solar radiation, the blood shows increased alkalinity, and this all the more under the action of the heat rays

Animals kept in darkness from birth show no gross changes from those exposed to light, but blood examination shows a lower blood platelet count. On exposure of these animals to mercury quartz vapor radiations, the number of platelets is increased to normal.

Light exposures do not induce changes in red blood cells and hemoglobin, except a very transitory one, and this chiefly when a preexisting anemia occurs. Lymphocytosis in rabbits can be induced by exposures to the shorter ultraviolet rays. Cell membranes have shown an increased permeability on exposure to these short wave lengths.

Basal metabolism is increased by light exposures alone, but this can be markedly increased by the additional action of moving air, winds and salt water baths.

The rate of growth may possibly be increased under the action of light.

### THE SKIN AS AN ORGAN

The skin may be considered an expansion of the nervous and circulatory systems. Its exposure to light rays produces an immediate and a delayed hyperemia, due either to the heat or to the chemical radiations. According to Krogh, the hyperemia induced by ultraviolet rays is caused by a direct action of the rays on the cutaneous capillaries. From an apparently lifeless, toneless and flabby skin, light exposures may produce a soft, velvety, colorful tissue. Under exposures to solar radiation, remarkable muscular tonus has been produced in unused muscles, despite prolonged application of immobilizing casts.

Increased physiologic action of the skin under light exposures may be predicated. Increased respiratory, excretory and protective power has been found to take place, and is now accepted as fact. It is rare to find acne developing in tanned skin. During an epidemic of chickenpox at Rollier's clinic, no cutaneous vesicles were found on tanned skin, whereas they did appear on unexposed areas beneath plaster casts. Increased heat output by radiation under a provoked hyperemia must demand increased metabolism to supply the additional caloric output, this in turn may imply increased body metabolism. Under light exposures, respiration is decreased in rate but increased in depth. Increased body heat production obviously demands accelerated vital reactions.

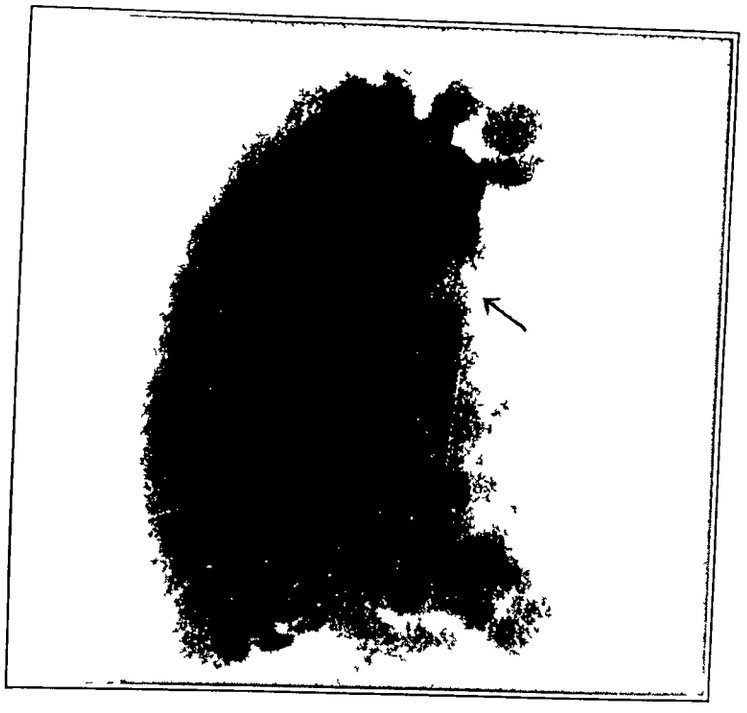


Fig. 3.—Complete loss of filling defect after eight months' use of quartz mercury vapor radiations.

The possibility of stimulation of the skin to produce so-called "antibodies" cannot be entirely discarded.

The action of light in the depths is in all probability an indirect one, by way of the nerves and the blood vessels. The ultraviolet rays are absorbed by the epidermis, however, they may possibly reach the projecting capillaries of the dermis. The deeper penetration of the longer visible and the infra-red rays may allow of slight direct depth action, but there is little cause to believe that this can be of much therapeutic value directly.

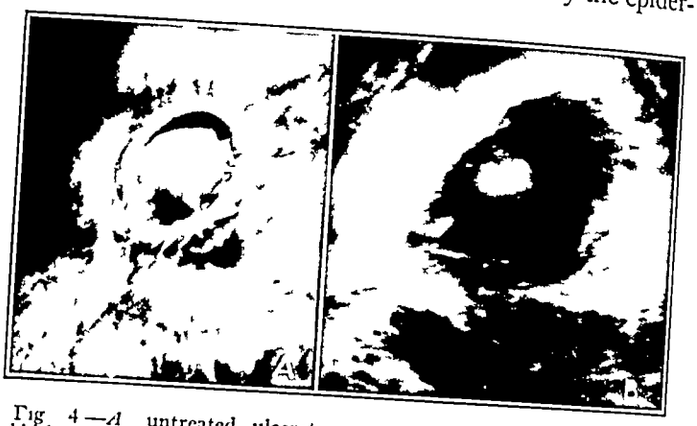


Fig. 4.—*A*, untreated ulcerative corneal tuberculosis of rabbit, *B* rabbit's corneal tuberculosis healed after five months' use of quartz mercury vapor radiations.

### QUARTZ MERCURY VAPOR AND CARBON ARC LIGHTS

Enthusiasts for heliotherapy insist on the use of radiations having a spectrum closely resembling that of sunlight. There is no other basis for this than that the results with solar exposures have been most favorable in the hands of these workers. There are sufficient grounds for expecting therapeutic results with other combinations of light rays. We may logically reason that certain diseases are more easily responsive to sources of greater intensity in ultraviolet radiation than to solar radiation. Empirically, this has been noted in the treatment of certain forms of tuberculosis.

The quartz mercury vapor light has a preponderance of the short ultraviolet rays, but also emits the longer ultraviolet rays, the blue, indigo and violet rays, and some few green and red rays. Heat particularly comes from the heated mercury and tungsten electrodes, the quartz container and the reflecting hood.

The carbon arc emits wave lengths similar to those of sunlight, but with a preponderance of infra-red and longer ultraviolet rays.

### CLINICAL OBSERVATIONS

Only brief refence may be made to the use of light, more especially the mercury quartz, in a few major complications of tuberculosis.

*Intestinal Tuberculosis.*—The diagnosis of intestinal tuberculosis is, as a rule, established by the subjective symptoms of alternating constipation and diarrhea, vague digestive complaints, abdominal pain, nausea, vomiting, and soft or watery stools, or merely by persistent loss of weight or slight elevation of temperature, otherwise unexplained, or by any or all of these symptoms combined with roentgen-ray demonstration of

filling defects in the cecum or ascending colon (found in a case of pulmonary tuberculosis)

Figure 2, taken before treatment, shows this defect in the cecum of a patient suffering from intestinal tuberculosis, and Figure 3 shows its complete disappearance after eight months of quartz mercury vapor exposure, this was accompanied by a complete cessation of digestive complaints We are convinced, after the study of a large series of patients so treated, that this is not merely a spontaneous recovery but one directly influenced by the treatment employed Too many cases have now been seen (eighty-eight of them I have rather carefully studied and a larger series has been reported by others, such men as Brown, Stewart and Pritchard) to conclude that the benefits were the result of mere coincidence Experimental studies are now in progress at the Saranac laboratories which aim to elucidate the mechanisms involved

*Hilum Tuberculosis*—A type of tuberculosis in which it appears that the importance of the favorable influence of light action has not been sufficiently stressed is hilum tuberculosis If the roentgen-ray and physical examinations reveal no definite pathologic conditions, then the diagnosis is necessarily made a method of elimination in children or adults having some form of combination of symptoms, such as elevation of temperature, tachycardia, loss of weight, strength and appetite, or cough and expectoration together with a marked sensitiveness to tuberculin inoculation I obtained especially favorable results on application of mercury quartz radiation in the majority of eighteen such cases in which combined therapeutic measures without light had previously failed, and a direct relationship between the treatment employed and the clinical effect had to be concluded

*Superficial Tuberculosis*—To study the effect of light exposures on superficial tuberculosis, we produced an experimental bovine tuberculosis of the cornea in rabbits and then irradiated these with quartz mercury light alone, or in combination with certain sensitizing substances, chiefly dyes, directly applied to the lesion Marked differences in the treated eyes as contrasted

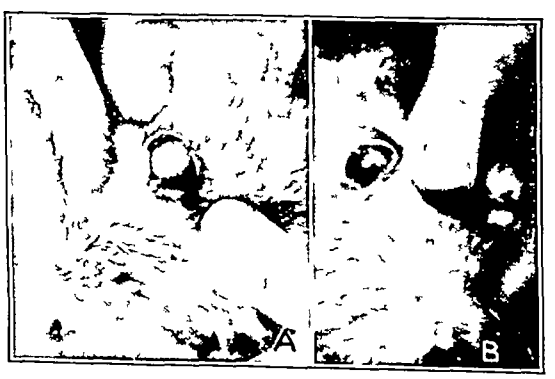



Fig 5—*A* untreated corneal tuberculosis of rabbit *B* eye healed after three months use of quartz mercury vapor radiations combined with eosin instillations

with the controls may be seen in Figures 4 and 5 Variations in response occur with different exposures and the different sensitizing substances employed [1]

*Lupus Vulgaris*—Lupus vulgaris and ulcerative tuberculosis of the mucous membranes, such as the pharynx, respond to combined local and general body exposures The possibilities of affecting a laryngeal tuberculosis with artificial light sources are theoretically promising, since it is possible to provoke chemical changes of tissue, focal reactions (as with tuberculin treatment), hyperemia, and even destruction of at least the most superficial of the bacteria The hyperemia may induce an analgesia in painful laryngitis We are now using a special form of water cooled mercury quartz light, applied directly to the larynx, both alone and in combination with sensitizing substances, such as eosin and quinin The results are promising, particularly when focal reactions are induced, but they do not yet permit of conclusive deductions

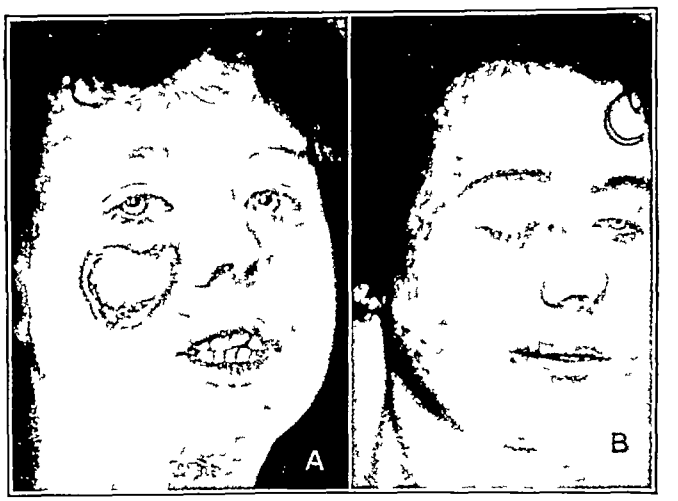



Fig 6—*A* persistent lupus vulgaris (January 1923) after two and one half years of local carbon arc irradiations *B* condition six months later after general body irradiations for that period and no local exposures

It seems imperative in all forms of tuberculosis to which light is applied to combine both general and local irradiations The greater importance of general irradiation, in at least one form, is clearly demonstrated in Figure 6 (from the Copenhagen institute, Reyn) It has been shown that healing takes place in 30 per cent more of cases of lupus vulgaris when general body irradiations are used in addition to local exposures

## CONCLUSION

Lack of time precludes the consideration of other important complications of tuberculosis, such as bone and joint, peritoneal, fistulous and glandular Light may be particularly advocated as an adjuvant in these types of cases

Reliance on its use in pulmonary tuberculosis is not to be especially encouraged

Other factors, such as pigment, its formation and function, the matter of dosage of light application and the mode of light action, cannot be entered into here This presentation has been made chiefly to hint at future possibilities of light therapy which will require closer cooperation between clinician, laboratory experimentalist and physicist

108 Main Street

[1] Detailed reports of these studies are appearing in the American Review of Tuberculosis.

**Related Health Problems**—The earnestness of purpose among advocates of special lines of health activities is deserving of great commendation, but the policy of conducting campaigns each dealing with some particular problem regardless of its relation to the other similar problems, is productive of confusion—W S Draper *Pub Health Rep* 38 2715 (Nov 16) 1923

# UNUSUAL ORGANISM (ALTERNARIA, SP.) OCCURRING IN CHRONIC PULMONARY DISEASE

PRELIMINARY NOTE

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In those forms of chronic pulmonary disease in which the course is atypical, the symptoms severe and persistent, the physical examination inconclusive and the laboratory reports negative, the study of fresh, unstained preparations of the sputum and, at necropsy, of lesions macerated in a strong solution of potassium hydroxid often reveals unexpected and suggestive findings. By this method of study we found, in the sputum of one case and in the pulmonary lesions of three cases, an unusual organism that has not been described in association with disease in man or in animals.

This organism is characterized by its pyriform or club shape, its beaded or septated structure, and its diffuse brown pigmentation. Occasionally, it is associated with a small, rounded, nonpigmented body with a roughened surface covered with flattened spurs giving it the appearance of a golf ball. The beaded, pyriform body is similar to the septated spore of the genus of fungi imperfecti called *Alternaria*. This fungus has not been associated with human or animal diseases, but is known to cause various diseases in plants, such as potato blight,[1] tomato rot, and a peculiar disease of tobacco plants and of carnations.[2] It is rather widely distributed in nature. It forms a profuse greenish black growth when inoculated on 4 per cent maltose agar, and shows numerous segmented pigmented pyriform or club-shaped spores that often occur in chains about the edge of the mycelium.

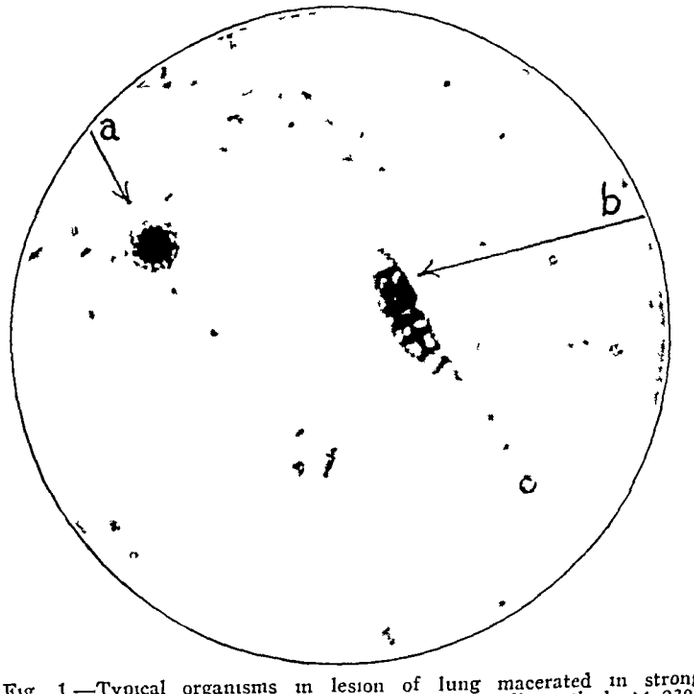



FIG. 1.—Typical organisms in lesion of lung macerated in strong potassium hydroxid solution and stained by Sabouraud's method, × 230. *a*, golf ball form, *b*, typical segmented club shaped spore.

## REPORT OF CASES

CASE 1.—A young colored woman had marked respiratory symptoms, with indefinite physical findings and negative laboratory examination, with the exception of a positive Wassermann reaction. The study of unstained smears of the sputum showed the characteristic septated, pyriform spore of an *Alternaria* mold. No attempt was made to isolate it at this time. Death occurred four months later, and at necropsy a peculiar, indurated consolidation was noted in the left lung,

FIG. 2.—Granulomatous nodule of lung in Case 1, showing organisms in center, × 160.

especially along the base of the upper lobe. It was intimately related to the pleura, and was very sharply defined. It resembled tuberculous pneumonia, but was more indurated and showed many small cavities, and the exudate was sticky and mucopurulent in type. Portions of this consolidation, when macerated in strong potassium hydroxid solution, showed many characteristic, club-shaped beaded spores, and a few "golf balls." Unfortunately, the body had been embalmed before the necropsy was permitted, and the organisms could not be isolated. However, they were found in paraffin sections of the lesions. Furthermore, peculiar granulomatous foci with radiating clubbed structures surrounded by pus cells were seen in some sections, and seemed not unlike an actinomycotic lesion.

CASE 2.—A man entered the hospital with the diagnosis of diabetes. While in the hospital, symptoms of chronic pulmonary disease became prominent, with profuse expectoration of foul sputum. As in the first case, acid-fast organisms were not found even with the use of the antiformin method. A diagnosis of bronchiectasis was made. At the necropsy, both lungs showed consolidated, indurated areas between large cavities, giving the lesions a tuberculous appearance. The exudate in the alveoli was unusually sticky and tenacious. Macerated lesions showed the same beaded spore as in the first case, but the organism could not be isolated because the body had been embalmed. The histologic examination was similar to that of ulcerative tuberculosis.

CASE 3.—A man, aged 78, injured his hip, developed extensive decubitus, and died two months later. At necropsy a peculiar bronchopneumonia with much induration and cavity formation and with a very thick, tenacious, purulent exudate was found in the anterior lobe of the left lung. Maceration of these lesions with potassium hydroxid showed the same characteristic septated spores and "golf balls" noted in the other cases. The same organism was isolated from the lesions by each of us, working independently, when inoculated in maltose agar, and was found to grow profusely with at first a downy white growth, followed by a greenish pigmentation becom

* From the Departments of Pathology and Experimental Medicine, University of Kansas School of Medicine.

1. Duggar, B. M. Fungous Diseases of Plants, Boston, Ginn & Co., 1909, p. 306.
2. Stevens, F. L. The Fungi Which Cause Plant Disease, New York, the Macmillan Company, 1913, p. 621.

ing brown and finally black next to the media, to which it becomes very adherent After three or four weeks, it has the appearance of a black mold After ten days or two weeks, large numbers of the typical club-shaped, pigmented, septated spores developed, often growing in chains especially about the edge of the mycelium, and in part accounting for the dark pigmentation of the mold A suspension of these spores, when inoculated subcutaneously in the ear of a rabbit, produced sluggish abscesses, which attained a maximum development at the end of three weeks and then slowly subsided The same organism was isolated in pure culture repeatedly from the pus of these abscesses up to six weeks after the inoculation At the end of one week, a dense mycelial network with few spores could be seen in the pus Later, the spores become more frequent and the mycelium scanty A control inoculation of *Aspergillus glaucus,* made simultaneously, disappeared in two days, leaving no trace of its location

COMMENT

The identification of this organism and its relationship to the lesions in the lungs cannot be discussed in the present status of our investigation There is much confusion in the classification of the species of this group of fungi[3] Two plant pathologists have called it some species of *Alternaria* From a study of Castellani's[4] classification of fungi imperfecti, it apparently belongs to the suborder of *Thallosporalle*—the *Arthrosporiae,* which include the *Trichophyton* family In fact, at first we felt that it was a trichophyton It is of interest to note that the fungus was found in the lesions of the human lung only in the spore form, no mycelial network having been recognized Furthermore, it was found in three cases of chronic pulmonary infection in which a clinical diagnosis of tuberculosis was considered, but in the lesions of which acid-fast organisms were found only after considerable search Accordingly, it probably represents a secondary infection It should also be noted that typical miliary tubercles were not found in any of the pulmonary lesions

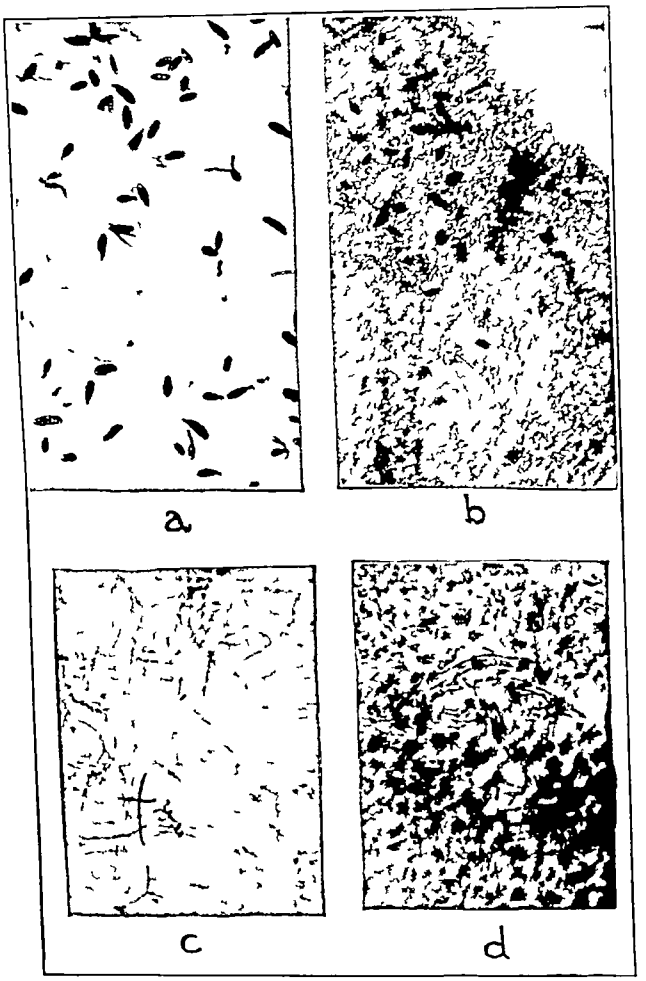



Fig 3—Mycelium and spores *a* suspension of spores from a culture 4 weeks old × 80 *b* mycelium from pus of a subcutaneous abscess seven days after inoculation with *a* × 80 *c* mycelium in lung of rabbit seven days after inoculation with *a* × 320 *d* mycelium and spores from a subcutaneous abscess four weeks after inoculation × 70

Fig 4—Granulomatous lesion in ear of rabbit nine days after inoculation the arrow indicates a spore in the center surrounded by leukocytes slightly reduced from a photomicrograph with a magnification of 260 diameters

It is of considerable significance that localized lesions were produced with this organism in rabbits, and that a mycelium developed in these lesions from inoculations of a suspension of spores At the same time the histologic study of the lesions in the rabbit showed a granulomatous reaction not unlike that associated with infection with *Actinomyces* These findings indicate a low grade pathogenicity to this species of *Alternaria,* and suggest that certain species of this group may produce disease in animals as well as in plants

[3] Elliott J A Taxonomic Characters of the Genera Alternaria and Macrosporium Am J Botany 1 459

[4] Castellani Aldo Medical Mycology J Trop Med & Hyg 27 49 (Jan) 1924

**Venereal Disease in Switzerland** — Switzerland has presented a statistical study of venereal diseases in which reports were received from 75 per cent of practitioners and from 95 per cent of the specialists, showing the number of cases encountered in the year ending Sept 30, 1921 Three appeals were made to physicians, first individually, then by the state public health service and finally through the medical organizations The report shows 4 02 infected persons per ten thousand population, 83 per cent were in cities, 10 per cent in villages, males formed two-thirds of the total, married men 31 per cent and married women 40 per cent The infection male and female, was from the parents in 2 and 8 2 per cent. of the cases, betrothed, 3 and 10 8 per cent , wife and husband, 4 and 30 per cent prostitutes, 40 per cent Infection from prostitutes formed 75 per cent of the cases in men from other countries but only in 33 per cent of the cases in natives. During the three years since this collective inquiry the number of cases of syphilis has shown a marked decline

# GASTROJEJUNOCOLIC FISTULA

H M STENHOUSE, M D
Lieutenant Commander, Medical Corps, U S Navy
ST CROIX, V I

What we expect to find and the condition that exists inside the abdomen may be decidedly different This is the more striking after previous operation in the peritoneal cavity In the normal, healthy state there are the stomach, the more solid viscera and the small intestines, intricately coiled and folded, gliding softly and maintaining their integrity But disease or trauma distorts the arrangement, and leaves adhesions to alter function

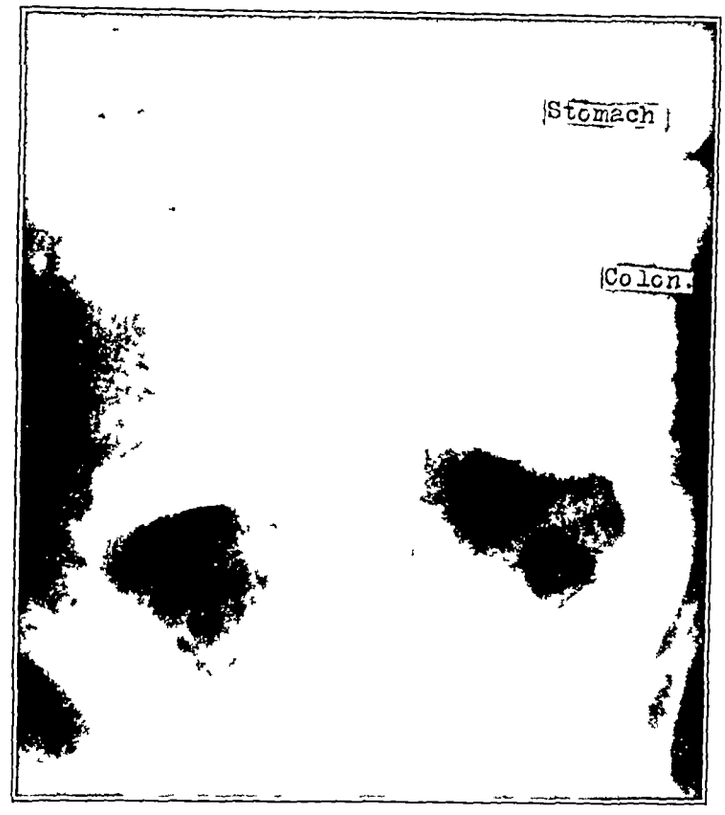
A not uncommon result of gastro-enterostomy is the fixation of the transverse colon in the vicinity of the anastomosis Should the cause of the original ulceration not be removed, new ulcers may occur in spite of the drainage of the gastric contents provided for by the operation The outcome of such an ulcer perforating the walls of the jejunum and the colon at the site of fixation is a gastrojejunocolic fistula

Early recognition and intervention offer fair chances for recovery Delay or failure to recognize the condition is usually disastrous

Shortly after the publication of a description of the condition by C H Mayo,[1] such a case came under my care The patient had been under the care of several other physicians prior to this, for at least two years

Dr Mayo found six cases of gastrojejunocolic fistula among 101 gastrojejunal ulcers The postoperative interval in his series was from five weeks to nine and one-half years The symptoms included diarrhea, wasting and fecal vomiting He stated that the fistula might be intermittently patent or closed, and that the pain was lower than is found in cases of duodenal ulcer The treatment advised was pyloroplasty

The postoperative interval in my case was eight years The symptoms correspond to those already quoted, with pain in the lower abdomen, apparently more in the right side in the region of the cecum




Fistula, and barium in stomach, immediately following rectal instillation

## REPORT OF CASE

P L, a veteran, formerly an electroplater, aged 35, born in Denmark, was admitted to the hospital, Feb 13, 1922, with the diagnosis of chronic enteritis He had been discharged from the hospital the preceding June with the same condition, improved There had been no let up in the diarrhea from that time For the last few days, he had had six or seven movements a day He had a decided pain in the right lower abdomen, and general abdominal soreness He said that he had passed from the bowel food that was eaten thirty-five minutes before He sometimes relieved the pain by eating solid food, but for the last year he had controlled the pain with opiates He said that a proctoscopic examination made elsewhere, a year and a half before, showed a "highly inflamed intestinal wall, bleeding to the touch of the finger" His appetite used to be enormous, but three weeks before admission he lost it Since he left this hospital a year before, he had been under treatment elsewhere without getting relief He had lost a great deal of weight since then

A week after the present admission, the patient came under my care The history of from six to seven bowel movements had been verified He continued to complain of pain in the abdomen The urine had been found normal The feces had been examined and reported negative for blood, parasites and ova, and tubercle bacilli The hemoglobin was 65 per cent, red blood corpuscles, 3,800,000, white blood corpuscles, 6,200, polymorphonuclears, 75 per cent, lymphocytes, 21 per cent

A gastro-enterostomy had been performed on the patient at Copenhagen eleven years before He was free from trouble for four years following this operation Then, he suddenly began having hemorrhages from the bowel, he vomited and had some pain At times he was in coma He was again operated on He recovered from the operation, and remained well for four years more He was then sent to France where, while doing intelligence work to which he was detailed because of his knowledge of the German language, he contracted diarrhea The hardships of the campaign and the mental strain taxed his strength and brought on this new complication

The report of Dr Mayo was fresh in my mind, and this case seemed to be similar But there was some delay in obtaining a roentgenogram of the colon, and on the strength of the opinions of those who had previously had charge of the case, it was decided to try a therapeutic test for dysentery, February 23, a liter of kerosene was injected into the rectum, to be held for thirty minutes After ten minutes, the kerosene was vomited This rather convinced all the consultants of the presence of fistula On the 27th, the diagnosis was confirmed by a roentgenogram, which showed the fistula connecting the stomach and the colon Four days later, the patient reported that he had rested well, that he had eaten a good lunch of fish and potatoes, and that he had passed a formed stool He was weak, however, and subsequent efforts to get nourishment to his system proved futile He was buoyed up for a while by a faint ray of hope that a spontaneous closure would take place This failed to happen, and he continued to get no better He finally died of starvation

At postmortem the old anastomosis was found to be patent, but the small intestine had ceased to function because of a much more decided short cut that subsequent ulceration and perforation had produced The food had been passing from the stomach to the jejunum and then to the transverse colon, not going through the coils of the small intestine at all The colon had become adherent to the jejunum over the area where the original anastomosis had been done Ulceration and perforation through these walls had completed the proc-

1 Mayo, C H Gastrojejunocolic Fistulas Following Gastro Enterostomy, abstr J A M A 78 380 (Feb 4) 1922

ess There were unhealed ulcers on the jejunal side near its junction with the colon There was an old patent anastomosis between the lower part of the jejunum and the ileum

COMMENT

The lesson to be learned from this case is that early diagnosis is almost essential to successful treatment In this connection, I would urge the importance of a single roentgenogram of the colon Several roentgenograms made after bismuth meals and bismuth series had been part of the study of this case The roentgen-ray interpretation of these was useless, whereas a single roentgenogram of the colon would have told the story in a few words

## LEPROSY

### REPORT OF A SPORADIC CASE DEVELOPING IN PENNSYLVANIA *

H H HOLDERMAN, M D
SHENANDOAH, PA

In November, 1923, a case of nodular leprosy came under my observation at Shenandoah, Pa The rare occurrence of this infection in the United States and especially in Pennsylvania, the liabilities of error in the diagnosis of sporadic cases, and the importance of recognizing such cases, prompts me to make this report

REPORT OF CASE

*History*—Mrs M F, aged 26, a housewife, who had been married three years and had never been pregnant, complained of choking sensations, loss of voice, and tubercles on her face The family history was irrelevant, but the patient stated that she did not know of any of her relatives ever having had leprosy The patient had been somewhat migratory She was born in Portugal, and resided there until 13 years of age, when she left for Brazil She worked as a domestic in Brazil until 1920, when she left for New York, arriving in January of that year She remained there but a short time, when she left for Panama, residing there until October, 1922, when she again returned to New York, coming to Shenandoah in May, 1923

About seven months before I saw her, she began to have headaches and chills and noticed blebs on her face These at first had fluid, but later they became hard The patient had some areas of hyperesthesia on both arms and legs, she lost weight rapidly, and later complained of choking sensations which caused her to seek my advice

*Physical Examination*—The temperature was 99 1 F, the pulse, 78, and the respirations, 18 a minute The face had numerous tubercles, ranging in size from a pinhead to a lima bean One of these small tubercles, about the size of a small pea, was infiltrated in the left eyelid The color of the tubercles was a bister, while the larger ones had a reddish hue and appeared somewhat waxy There were small amounts of pigment at the borders of the tubercles, and the left eyebrow had disappeared in its outer half Her expression was dull and listless, and her voice so husky that at times it became almost absent There were two eroded areas on either side of the nasal septum There was a scattered grayish pigment on the anterior surface of the lower extremities, with more on the right side than on the left On the left leg there were patchy spots of lighter color interspersed with the pigment It seemed as though the latter was fading The hands were swollen and had erythematous lesions The nails on the fingers were somewhat thickened, the left thumb nail and the right great toe nail had undergone destruction

This clinical picture, with the history of the case, made me suspect leprosy I made a tentative diagnosis of leprosy, and arranged for an immediate laboratory study of the case After the lepra bacilli were found in the tubercles, I immediately reported the case to the local board of health, which in turn reported it to the state department of health The state department of health ordered an absolute quarantine, and at once took up the case with the federal government for deportation proceedings

*Laboratory Findings*—Specimens of the blood, the tubercles, and nasal smears were ordered sent to the state laboratories at the University of Pennsylvania, Philadelphia The laboratory reported [8] that examination of the spread made from the nasal secretion showed the presence of epithelial cells, leukocytes and some of the common bacteria found in the nasal mucosa, also the presence of acid-fast bacilli, which were occasionally arranged in pairs and bundles resembling the

Fig 1—Appearance of patient numerous tubercles on face with one infiltrated in left eyelid loss of outer half of left eyebrow broadening of nose swollen hands with dry, cracked skin and thickened finger nails with loss of left thumb nail

bacilli of leprosy Spreads from the material collected from the nodule showed the presence of acid-fast bacilli in large numbers, arranged in pairs and bundles resembling the lepra bacillus, also the presence of lepra cells in fair numbers which were pathognomonic of leprosy The diagnosis was leprosy

DIFFERENTIAL DIAGNOSIS

One of the most frequent stumbling blocks in the diagnosis is syphilis, especially is this true when the patient manifests a positive Wassermann reaction The blood Wassermann reaction of this patient was positive, while the blood Wassermann reaction of her husband was negative Goodpasture [9] has recently called atten-

* Owing to lack of space this article is abbreviated in THE JOURNAL by omission of a discussion of the distribution etiology and bacteriology of leprosy The complete article appears in the author's reprints

8 Laird Report from the state laboratory, University of Pennsylvania Philadelphia December 1923

9 Goodpasture E. W Complement Fixation in Treated and Untreated Leprosy Philippine J Sc 22 425 (April) 1923 abst J A. M A 81 72 (July 7) 1923

tion to the fact that 60 per cent of lepers who are not on the oil treatment show a positive Wassermann reaction, while 84 per cent of the same group show a positive reaction to the Wassermann test when placed on the oil treatment However, the finding of the acid-fast bacilli together with the lepra cells is conclusively diagnostic Morphea, lupus and mycosis fungoides can readily be eliminated in doubtful cases by laboratory study

### TRANSMISSION AND INCUBATION

Some writers [10] stress the transmission from mother to fetus, others, the migratory habits, there are still others who lean only to transmission by contagion Muir [11] asserts that the habits of lepers and of those who come in contact with them are largely responsible for transmission, especially in house and bed infections The body resistance is lowered by concurrent or intercurrent diseases, constipation, unsuitable diet and many other causes, and it is commonly in connection with one of these exciting causes that leprosy first shows itself

Fig 2—Pigmentation of the lower extremities, more marked on the right leg, with loss of right large toe nail

Notwithstanding the variation of opinion in regard to transmission, it seems that all are agreed on the long incubation period Hollopeau states that it may be as long as thirty-two years In all likelihood, this patient contracted the disease in Portugal Hansen has called attention to the fact that none of the children of 170 lepers who from time to time migrated to North America have become diseased The indirect evidence of transmission is more significant Manson [12] cites the case of an Irishman who acquired his disease in the West Indies On his return to Ireland his bed was shared by his brother, who sometimes wore the leper's clothes The brother, who had never been in a foreign country, became, in time, a leper In this case communication from one to the other is practically demonstrated

Currie [13] suggests the possible transmission by insects, as these parasites retain the bacilli in their intestinal tracts for several days

Arning [14] inoculated a criminal in the Hawaiian Islands with a leprosy nodule, and the inoculation was followed by true leprosy, which terminated fatally six years later The experiment, however, did not exclude the important source of error involved in the fact that the subject was the native of a country in which leprosy was common, that he lived among lepers, and that his parents were lepers

### CLINICAL DESCRIPTION

The course of the disease in this case was characteristic of that described by most writers The onset was insidious after a probable prolonged incubation period There were visible mascular leprosy of the hands, the tubercular or nodular leprosy of the face, the loss of the outer half of the eyebrow, the broadening of the nose, the thickening of the finger nails, or the beginning of the structural changes or the so-called lepra mutilans In addition to the aphonia present, the patient had several severe asphyxiation attacks, due to an edema of the glottis and the laryngeal involvement After these attacks, there was a very free flow of saliva, faintly blood tinged There were no further laryngeal symptoms after the administration of the oil was started

### TREATMENT

Absolute quarantine was ordered by the state department of health, pending deportation to Portugal (her husband not being naturalized) by the federal Immigration Bureau Besides segregation and the usual hygienic treatment, she was given, by intramuscular injection, chaulmoogra oil in the dose of 0 5 c c weekly, and each dose was increased by 0 5 c c This is the treatment carried out at Culion [15] The treatment was continued until the maximum of 4 c c was reached Calmette uses an antivenene in the dose of from 20 to 30 c c, subcutaneously, and reports remarkable results in a few cases

In Calcutta, they use a fatty principle extracted from cultures of a leprastreptothrix combined with chlorbenzene, called *nastin*

The treatment in this patient showed no results except an arrest in the laryngeal symptoms There were no asphyxiation attacks nor any blood tinged saliva after the oil treatment was started The oil seemed to act almost instantly on the laryngeal symptoms

After conducting a hearing in Shenandoah, Pa, the United States Emigration Bureau ordered the woman deported to Portugal, Jan 29, 1924

10 North Jardin Street

10 Collins and Liebmann, cited by Dieulafoy Textbook of Medicine, Ed 2, Paris **2** 1826, 1912
11 Muir, E Transmission of Leprosy, Indian M Gaz **58** 572 (Dec) 1923
12 Manson Tropical Diseases, London, 1900, p 448
13 Currie Pub Health Bull 39, Washington, D C, September, 1910
14 Arning Arch f path Anat **134** 319, 1893
15 Lara, C B Clinical Aspects of Leprosy Treatment at Culion Leper Colony Philippine I M A J **3** 227 (Sept Oct) 1923, abst J A M A **82** 159 (Jan 12) 1924

**Venereal Disease in Siam**—Two very local conditions that are distinctly important contributing factors to the spread of venereal diseases are the large numbers of floating Chinese and the comparative lack of poverty in Siam While in China and other countries famine often compels parents to dispose of the children, with special reference to the females, to slave dealers and others, and in that way contribute to the spread of the plague, it is easy to understand how in Siam the opposite state of affairs may have a tendency to complicate the problem—R W Mendelson *Am J Pub Health* **13** 828 (Oct) 1923

# A NEW OPERATION FOR PROLAPSE OF THE RECTUM

PRELIMINARY REPORT

JEROME M LYNCH, M D
NEW YORK

There is no operation, so far as I know, that is wholly satisfactory for prolapse of the rectum I will not discuss the multitudinous views held by various authorities as to the cause of prolapse, as they are too well known to need description The number of operations that have been suggested is sufficient evidence to prove that no special one is entirely acceptable

It would be difficult to imagine a prolapse associated with a very short sigmoid, therefore we must assume

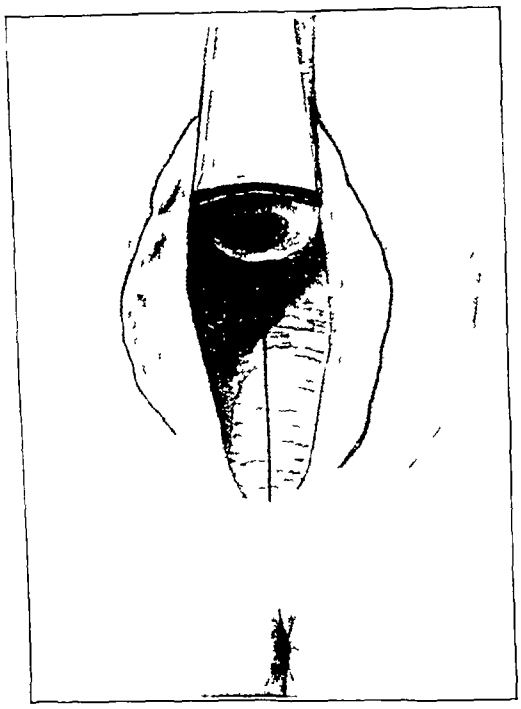


Fig 1 —Speculum in place exposing cervix and showing line of incision through vaginal wall

that a long sigmoid is the first requisite to bring about this condition I do not deny, as has been pointed out by Quenu and Moschcowitz, that a deep culdesac is a predisposing factor, but there are other anatomic factors besides a long sigmoid that enter into the mechanism of prolapse, namely, the loose connective tissue at the peritoneal reflection, the lateral ligaments and the levator muscle, all of which help to support the rectum As has been pointed out by Todd, the lateral ligaments are the chief supports of the rectum and not, as has been supposed, the levator muscle Any one familiar with the operation for extirpation of the rectum can substantiate the fact that mobilization of the bowel even after the severing of the levator, is impossible until the lateral ligaments and the loose bands of connective tissue have been severed Even then, one has to cut the peritoneum of the sigmoid before bringing the bowel outside the anal canal

Todd has demonstrated also that the blood vessels and nerves in the lateral ligaments are convoluted, and that, when stretched, they are about twice as long as the lateral ligaments, so that, as the ligaments are stretched, the convolutions gradually straighten out, permitting the bowel to come down, without strain on the blood vessels and nerves Any operation, to be satisfactory, should be anatomically correct

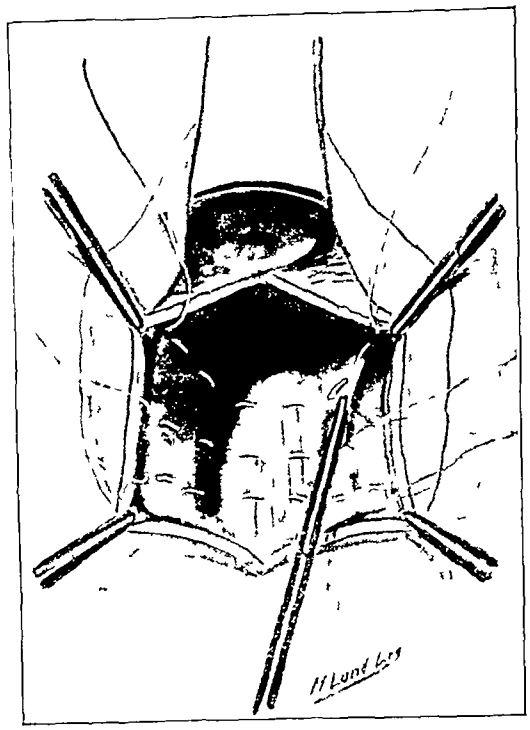


Fig 2 —Forceps pulling on upper end of lateral ligament and the method of introducing sutures through the lateral ligament and rectum

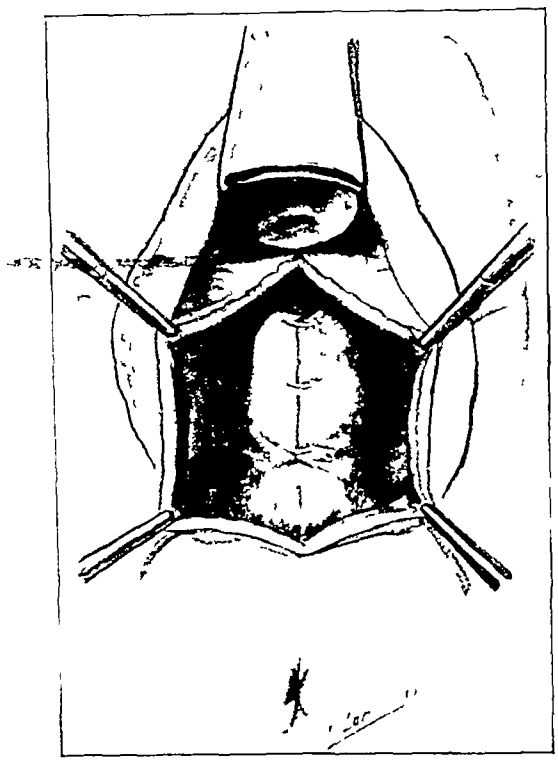


Fig 3 —Final stage of operation with the sutures tied and the rectum in place

It would seem, therefore, that resection of the sigmoid, with shortening of the lateral ligaments, should be the operation of choice in prolapse of the rectum I have not combined these two procedures in the opera-

tions that I have so far performed, but in two cases of long standing prolapse in which the patients had previously had many operations, the one I am about to describe proved very satisfactory These women had not only a prolapse, but also such a marked loss of sphincteric tone that it seemed as though even if the rectum was replaced, there must still remain incontinence Much to my surprise, these patients have regained complete control, so complete, in fact, that they can retain an enema

TECHNIC OF OPERATION

An incision is made in the posterior vaginal wall, from the cervix to the transversus perinei muscles The vaginal wall is dissected free from the rectum, and the lateral ligaments are exposed By passing the finger just below the peritoneal reflection to the left of the rectum, one can hitt the left lateral ligament By means of a catgut suture two or three reefs can be taken in the ligament, and the needle brought out close to the rectum The needle is then passed through the muscular wall of the rectum, brought out, and again inserted on the right side of the rectum, and then brought out close to the right lateral ligament The same process is repeated on the right side with the same number of reefs taken in the right lateral ligament About an inch from the first suture, the second suture is inserted in the manner just described, and a third suture similarly placed an inch below the second This is well illustrated in Figure 2

Figure 3 represents the sutures tied in place

By this method the lateral ligaments are shortened and the bowel is immobilized in its natural position

The vagina is closed by means of a catgut suture

205 East Sixty-First Street

# PRIMARY CARCINOMA (EPITHELIOMA) OF THE URETER

REPORT OF CASE

ALBERT M CRANCE, M D
Attending Urologist, Geneva City Hospital
AND
HOMER J KNICKERBOCKER, M D
Attending Surgeon, Geneva City Hospital
GENEVA, N Y

Primary carcinoma of the ureter is a rare pathologic occurrence Still rarer is its diagnosis in life, because a large percentage of the cases reported in the literature were diagnosed at necropsy In 1921, a very extensive review of the literature was made by Judd and Struthers,[1] at which time they found that twenty-five cases of primary malignant tumor of the ureter had been previously reported, not including their own case Up to March 7, 1924, the date of a personal communication from Dr W F Braasch, the case reported by Judd and Struthers was the only case of primary epithelioma of the ureter in which an operation had been performed at the Mayo Clinic

We have been able to find only two additional cases in the literature Knack[2] reported a case of papillary carcinoma of the left ureter in a man, aged 73, in which the diagnosis was made at necropsy Quinby[3] reported a case, that of a woman, aged 40, on whom he operated The left ureter contained a tumor which when examined pathologically, proved to be "probably" malignant

If we accept these reviews as authentic, there have been, up to the present time, twenty-eight cases of primary carcinoma of the ureter reported in the literature We believe, therefore, after an exhaustive search, that the following is the twenty-ninth such case to be reported[4]

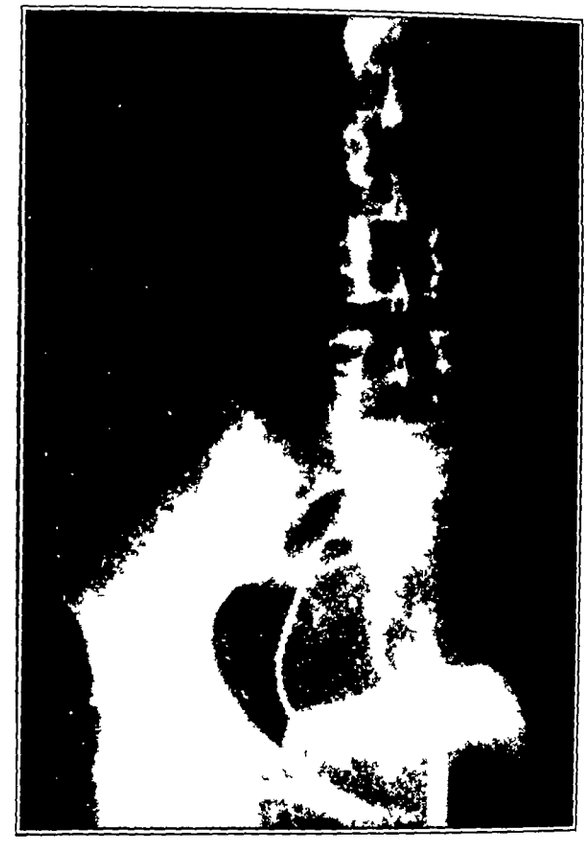


Fig 1 —No 5 catheter to the point of obstruction, the opaque solution returned to the bladder

SYMPTOMS

Judd and Struthers[1] state that

> The principal symptoms are hematuria, swelling and pain, the same as with tumor of the kidney The hematuria is usually the first symptom and may not be associated with pain It generally comes on without cause, the blood is profuse and thoroughly mixed with the urine If there is clot formation, the pain may be intense and colicky in character Usually there is a vesical disturbance, evidenced by frequent micturition The ureteral clots passed under these circumstances are very characteristic They have the appearance of angleworms and sometimes are of great length

In our own case, hematuria was the outstanding symptom The patient was not in pain except just prior to her entrance to the hospital, at which time there was difficulty in urinating, with pain in the bladder After she passed several clots, the pain as well as the hematuria disappeared

DIAGNOSIS

The first important step in the diagnosis is to rule out calculus by a roentgen-ray examination of the complete urinary tract The next important procedure is to locate the source of the bleeding, or, if there is [illegible]

1 Judd E S, and Struthers, J E J Urol 6 115 (Aug) 1921
2 Knack, A V A Case of Papillary Carcinoma of the Left Ureter, Deutsch med Wchnschr 44 982, 1918
3 Quinby, W C Tumors Primary in the Ureter, J Urol 4 439 (Oct) 1920

4 Since this article was prepared for publication an additional case of primary carcinoma of the ureter has been reported by Kretschmer H L Surg, Gynec & Obst 38 47 (Jan) 1924

bleeding at the time of cystoscopy, a carcinoma in the ureter will generally begin bleeding if an attempt is made to pass a catheter In our case, this is precisely what occurred If any obstruction is met in the ureter, it is well to leave the catheter at this point and make a ureterogram The shadow obtained will usually show the presence of a mass with hydro-ureter above it, and if calculus has been ruled out previously, the evidence is strongly in favor of tumor

A differential function test is also valuable at this time In our case there was no function from the right side, and the left side showed the function to be perfectly good

## TREATMENT

As set forth by Judd and Scholl,[5] a complete nephro-ureterectomy should be performed in all cases of definite ureteral carcinoma In our case, the patient being a very good subject, this procedure was done, as illustrated by Figure 3

## REPORT OF CASE

*History*—A housewife, aged 42, referred by Dr Anna Warnecke, was admitted to the urologic service of the hospital, Feb 2, 1924, complaining of bloody urine and general weakness She was not in pain

Fig 2—Tumor in the lower portion of the ureter with hydro-ureter and hydronephrosis above it No 6 catheter was used

For the last year she had noticed at intervals of about every three weeks attacks of hematuria with the passing of fairly large clots of blood in the urine Occasionally associated with the hematuria were frequency and urgency of micturition, but between the attacks there had been very few, if any, symptoms referable to the bladder Her past history is of little interest except that eleven years before her admission to the hospital a salpingectomy and an appendectomy were performed from which she states there was never noticed much benefit The family history was negative for similar conditions carcinoma and tuberculosis

5 Judd E S and Scholl A J Symposium on Surgery of the Kidney and Ureter Atlantic M J 27 No 3 (March) 1924

The day prior to her entrance to the hospital, she had a very severe attack of pain in the region of the bladder, together with frequency and urgency of micturition and very bloody urine, at which time Dr Warnecke strongly advised her to enter the hospital By the time she had entered, the symptoms had entirely subsided, and there was no macroscopic blood in the urine

*Physical Examination*—The patient was a pale, rather poorly nourished woman, apparently very weak from her illness The general examination was negative The systolic blood pressure was 120, diastolic, 80 The abdominal examination showed the scar of a midline incision A somewhat enlarged right kidney could be definitely palpated It was also moderately tender to palpation The tenderness could be elicited downward along the course of the ureter

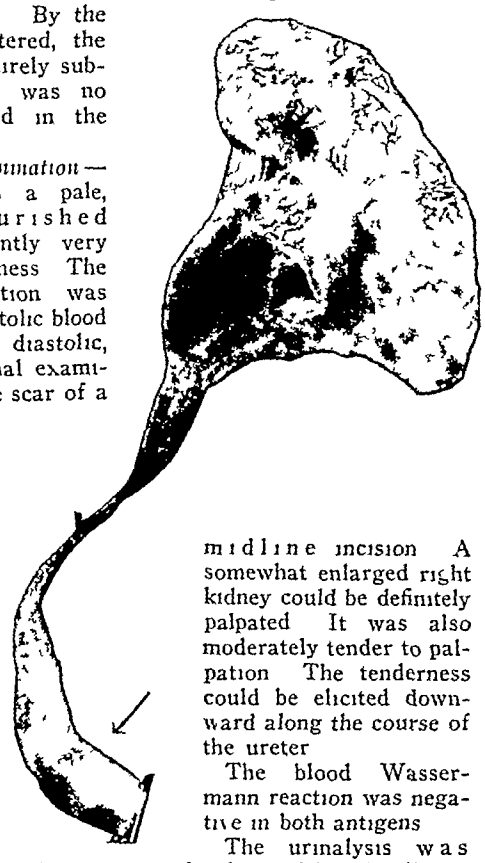


Fig 3—Appearance of removed specimen showing the area containing the tumor the hydro ureter and the hydronephrosis

The blood Wassermann reaction was negative in both antigens

The urinalysis was negative, except for the presence of a few red blood cells

Following the usual preparation with a 2 quart (2 liter) soapsuds enema, the patient was sent to the roentgen-ray department for a plain roentgenogram of the complete urinary tract Dr Achilles reported negative findings The patient was then kept under observation for a few days Cystoscopy was delayed, for the main reason that there was no bleeding, but after waiting a week, cystoscopy was done, February 9, at which time a normal appearing bladder, including a normal appearance of both ureteral orifices, was observed Both ureters were catheterized It was noticed that on the right side, at a point about 6 or 7 cm up, definite obstruction was met, and active bleeding from that side could immediately be seen A function test done at this time showed excellent function from the left side, with the appearance of the dye in six and one-half minutes but absolutely no appearance of the dye from the right side A ureteropyelogram was attempted but the solution (12.5 per cent sodium iodid) all returned into the bladder (Fig 1) This catheter, a No 5 was withdrawn and a No 6 catheter was reinserted into the ureter Definite obstruction was met at the same point The second attempt resulted in a good ureteropyelogram (Fig 2) This shows a very much dilated

Fig 4—The growth in the ureter

ureter immediately above the point of obstruction, although the ureter itself at this point did not fill with solution The solution may be seen as a distinct ring shadow, apparently around a mass We felt quite certain from the findings in the original plain picture that we were not dealing with a calculus Up near the ureteropelvic junction there was a definite Z shaped kink of the ureter, and just beyond it there were less distinct shadows of a hydronephrosis

The diagnosis of ureteral obstruction, probably tumor, and secondary hydro-ureter and hydronephrosis was made, and

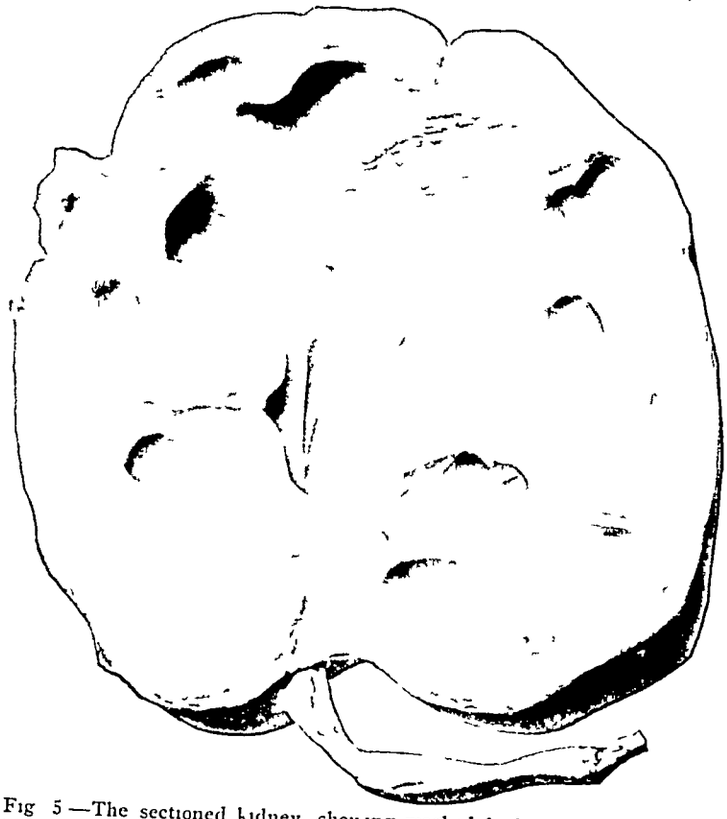


Fig 5 —The sectioned kidney, showing marked hydronephrosis, but no apparent metastatic areas

the patient was referred to the surgical service for nephrectomy and ureterectomy

*Operation and Result*—Under ether anesthesia, February 12, a long curved incision was made from the costal border downward to below the anterior spine of the ilium On exposure, the kidney was found distended The pelvis of the kidney was almost as large as the kidney itself An immensely dilated and kinked ureter was dissected out, down close to its junction with the bladder As this carried the dissection into what appeared to be a normal ureter, ligation was done, and the specimen was removed

Examination of the growth in the ureter showed it to be a mucous membrane epithelioma (carcinoma), with no evidence of metastasis in either the kidney or the ureter above it The pathologic diagnosis was made by Dr Harold Robinson of our laboratory, and corroborated by Dr B F Simpson of Buffalo

The patient made an excellent recovery She was discharged from the hospital, March 25, with the wound completely healed

Schmrel Building

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**Child Health**—No efforts for the health of mother and child can be complete which fail to take into account the conditions under which they live There is no purpose in urging recreation and physical development in a town if there is not sufficient space for play, nor the right facilities and guidance in the schools We should not urge the drinking of milk and water without at the same time being sure that the supply of both is pure and wholesome In short, a community must strive for healthful surroundings, pure food and the institution of those measures which have to do with the control of communicable disease— C Dinwiddie, *Hosp Social Service* **8** 144 (Sept) 1923

# *Clinical Notes, Suggestions, and New Instruments*

## AN UNUSUAL FRACTURE OF THE ELBOW

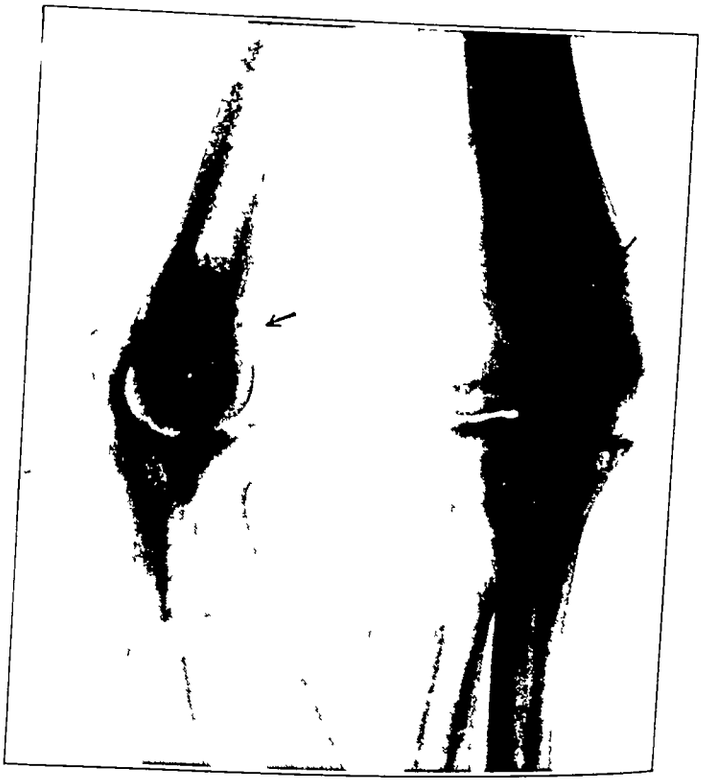
HAROLD SWANBERG, M D, QUINCY, ILL

Recently an unusual fracture of the elbow came under my observation

E B, a man, aged 42, a machinist, was referred to me by Dr F T Brenner of Quincy for a roentgenographic examination of the right elbow The clinical diagnosis was a possible fracture of the head of the radius The patient had always enjoyed good health There had been no previous trauma, both the elbows were perfectly normal in every way before the present injury, and there was no history of rheumatism or neuritis While working on a boring mill he was tightening a bolt with a wrench, when the wrench suddenly slipped while he was pushing on it with great strength As a result, his arm was forcibly extended, which extension was immediately followed by marked pain in the elbow

On examination, there was marked tenderness anteriorly over the distal extremity of the humerus, but no other localized tenderness was present There was complete flexion of the elbow, but extension was limited on account of pain

A roentgenogram made a few hours after the injury showed that there was a perforating fracture of the olecranon and coronoid fossae of the humerus The olecranon fossa appeared as if it had been drilled out by a trephine, the fragment being displaced anteriorly into the coronoid fossa No other fracture was present Evidently, at the time of the extreme extension of the forearm, the tip of the olecranon process of the ulna was forcibly pushed into the olecranon fossa of the humerus, causing the perforating fracture



Perforating fracture of olecranon fossa

While complete transverse fractures of the lower extremity of the humerus, including the olecranon fossa, are common, I have never before seen a case in which the olecranon fossa alone was fractured

A roentgenogram was made of the opposite elbow for comparison, but it was normal The treatment given in this case by the attending physician was immobilization in a plaster cast, with the elbow at a right angle for about six weeks

Seven months after the accident, the patient had some limitation of both flexion and extension in the affected elbow

t, but no pain He had a fairly useful arm although he plained of its not being as useful or as strong as before accident He was pursuing his former occupation, but ig lighter work Another roentgenogram was made, and bone formation could distinctly be seen in the coronoid

ia
31 Hampshire Street

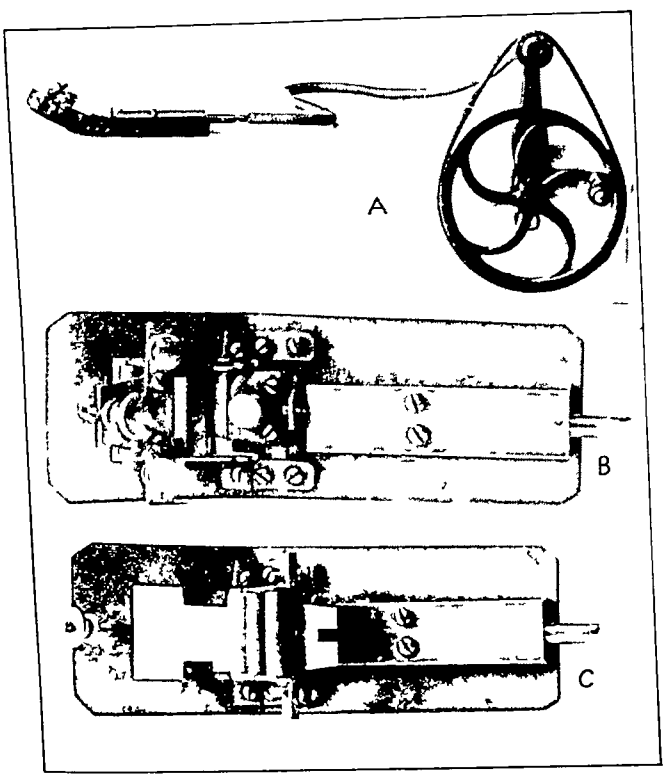
## DERMOTOME

G L Hagen, M D, Minneapolis

In the surgical operation of transplanting skin from one per- n to another, it has been customary to use a razor in cutting e skin from the donor Difficulty is experienced in cutting of uniform thickness, the razor blade having a tendency to rn in the hand and cut deeper in one place than in another It is desirable that the transplanting operation be performed ithout the flow of blood from the donor, and this can hardly e avoided when a razor is used, as uneven cuts are made in ie flesh

The object of my invention is to provide an instrument by neans of which a thin shaving of flesh may be removed of he desired thickness, with provision to prevent accidental leep cutting and the consequent flow of blood A further bject is to provide an instrument by which the flesh may be cut and transplanted much more rapidly than the ordinary methods heretofore employed

At *A* in the accompanying illustration, the instrument is assembled The power wheel can be attached to any table by means of a clamp and set screw, and the flexible cable permits the dermotome to be removed by a slip joint, so that




Dermotome

the skin may be carried to the receptor *B* shows the upper part which contains the rollers in a hinged frame locked in front when adjusted to the right thickness of tissue *C* shows the hinged frame containing the adjustable rollers tipped back leaving an opening and exposing the cutting knife which holds the tissue so that it can easily be picked up and spread out on the receptor with a needle The width of tissue cut is 17 cm and the length may be as desired

1519 East Franklin Avenue

## PULSATING ABSCESS OF CHEST WALL SIMULATING ANEURYSM *

George Kahn, M D, Boston

The diagnosis of aneurysm is so easily and so certainly made when one sees a pulsating area of bulging in the pre- cordial region, and with such a high percentage of later con- firmation, that such a case in which the diagnosis of aneurysm was wrong is worth reporting

Fig 1—Lateral view of chest, showing prominent bulge in the pre cordial region

A colored hod-carrier, aged 27, ten months before entry began to have severe, steady pains in the lower right back and axilla, at times also in the left lower axilla With this there was loss of appetite and weight, no cough, and no definite history of fever He was admitted to the Boston City Hospital and was discharged slightly improved two months later with a questionable diagnosis of nephrolithiasis of the right kidney, no evidence for tuberculosis having been made out He continued in this condition under his local physician's care without improvement until two months before admission, when he began to have severe, steady pains over the lower precordium, keeping him awake at night Simultaneously he noticed a small pulsating area of bulging come on over the lower precordium and a smaller, nonpulsating 'bunch" in the back All symptoms progressively increased and fever became more prominent The past history was entirely nega- tive, the patient stated that there had been no venereal disease or trauma

The patient was emaciated Examination was negative except for the local findings In the precordial region from the upper border of the third rib to the lower border of the fifth rib extending 6 cm to the left and 4 cm to the right of the midsternum and elevated 1 5 cm above the general plane of the chest was a localized area of pulsation pulsating syn- chronously with the heart and with an excursion of about 0.25 cm Palpation suggested a pulsating pocket of fluid just below the superficial structures of the chest wall There was definite fluctuation there was no palpable thrill, the pulsation was not definitely expansile and, on auscultation over it only the heart sounds could be heard There was no induration around this pulsating mass and it was impossible to feel anything through it because of exquisite local ten- derness With pressure locally all the pulsations disappeared,

* From the Boston City Hospital

and, as the patient sat up, the bulging became markedly more prominent There was nothing abnormal about the size of the heart or the quality of its sounds Over the twelfth thoracic and first lumbar vertebrae there were two separate, small, rather deep, fluctuating areas, side by side, each about the size of a nickel

The patient's temperature was septic, rising to 101 or 102 F The white blood cell count was 9,000, and otherwise the blood work was also negative, including two negative Wassermann tests The urine was normal The first roentgenogram showed a large, pulsating opacity above and behind the heart, on which a tentative diagnosis of aneurysm was returned

The visiting physician, Dr F W Palfrey, reasoned that the force of the pulsation, and the tension of the fluid within the pulsating body, seemed to be less great than would occur in aneurysm in a patient with a normal blood pressure, which this man had An arteriovenous aneurysm would explain the low tension but would have to pulsate slightly after the contraction of the ventricles of the heart rather than exactly with them, as happened in this case Other factors against a diagnosis of aneurysm were the atypical position, the absence of induration around the area of pulsation, and the negative Wassermann tests

After due deliberation, it was concluded that pulsating abscess was more probable than aneurysm Aspiration with a fine needle, properly directed, would be unlikely to introduce any avoidable dangers and would make the diagnosis, for if this was a case of aneurysm, the only therapeutic hope lay in wiring it, which would require puncturing its walls Exploratory puncture was therefore performed with a small needle inserted obliquely to the surface, and yielded a thick creamy, greenish pus, which showed no growth on culture but which gave the lesions of tuberculosis in a guinea-pig on injection Similar pus was obtained from the fluctuant

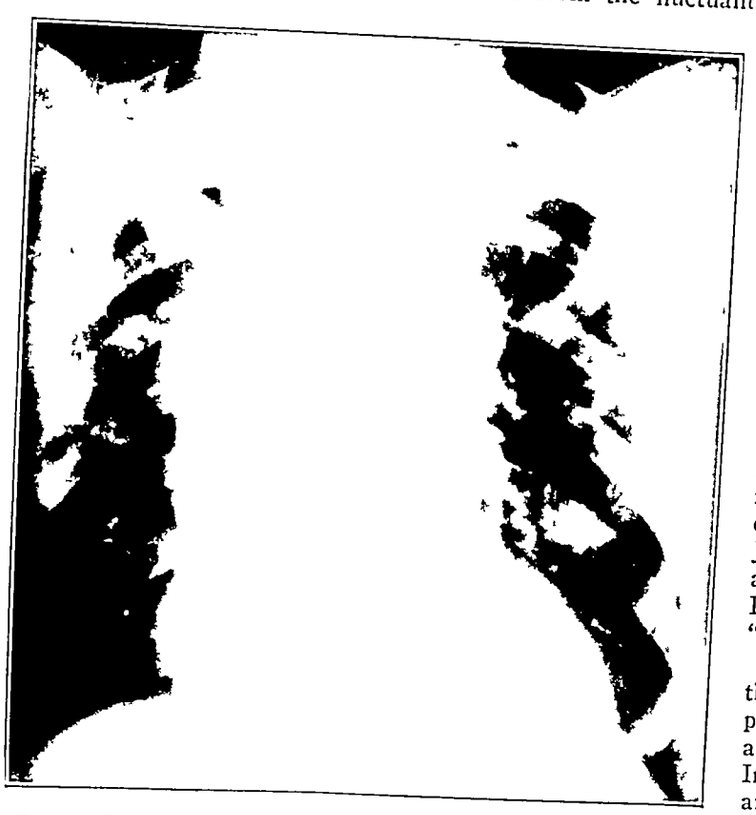


Fig 2.—Scalloping effect in mediastinum, suggesting mediastinal glands or pockets of pus

areas along the spine in back A second roentgenogram showed a scalloping effect in the mediastinum compatible with either glands or pockets of pus (Fig 2) The next step was to inject the abscess in the front of the chest with 12 per cent sodium iodid solution, to study its ramifications by the roentgen ray, and to see whether it communicated with the pathologic condition of mediastinum The result is seen in Figure 3, showing a localized abscess of the chest wall, with a mushroom-like pocket projecting between the ribs, on the head of which the heart could strike, thus imparting to it its pulsation

This case is brought to the attention of the profession as a pitfall in the diagnosis of aortic aneurysm The patient

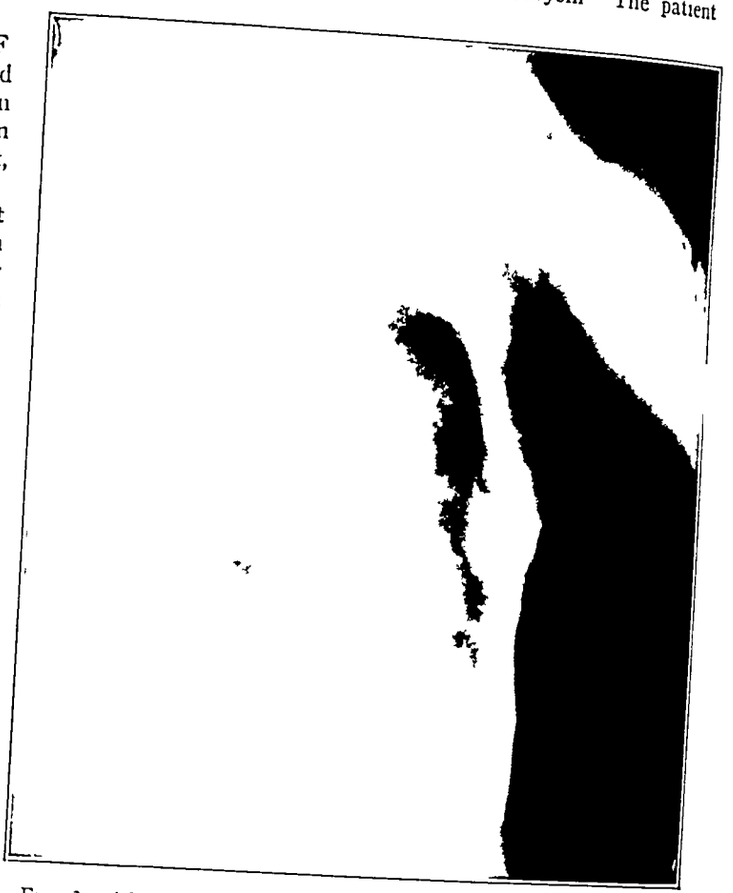


Fig 3.—After injection of pus pocket with sodium iodid mushroom projection on which the heart beat, giving it its impulse

was seen by many competent visiting men at the hospital, who allowed the admission diagnosis of aneurysm to go unchallenged

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## DRESSING FOR SUPRACONDYLAR FRACTURES OF THE HUMERUS *

E L ELIASON, M D, PHILADELPHIA

Following the practice of reducing fractures under the fluoroscope, when possible, I have found that often, after a perfect reduction, a rotation of the lower on the upper fragment occurred when the forearm was placed in acute flexion on the lateral chest wall, in what is generally considered the Jones position This was repeatedly shown by views taken after the usual dressing was applied To prevent this rotation, I have devised a plaster dressing to hold the arm in the "lateral hyperflexion position"

A study of more than a hundred school boys showed that the intercondylar plane does not pass through the body of the patient, but passes posteriorly, just touching the lumbar region and meeting the other intercondylar plane behind the spine In other words, the arms hang so that the external condyles are anterior to the internal condyles This natural position is maintained if the forearm is acutely flexed as indicated above But if we flex the forearm, allowing the forearm and hand to rest on the chest, the intercondylar plane is rotated approximately 20 degrees, the arm being carried further in front of the body plane at the same time Both of these changes are illustrated in Figure 1 If a supracondylar fracture exists, this rotation is going to occur at the fracture site, and we have a rotation deformity This rotation, I think, accounts for the gun-stock deformity in many cases This deformity does not occur if the forearm is flexed toward the shoulder, and the arm dressed in the lateral hyperflexion

* Presented before the Society of Clinical Surgery, Nov 15 1923

position, as shown in the illustrations, with a plaster-of-Paris swathe encircling the arm and then the body, maintaining the fixed relation

With the elbow in hyperflexion position, the hand directed toward the shoulder of the same side, several turns of plaster-of-Paris bandage are applied (the skin being protected), reaching from the axilla to the condyles This is allowed to set or harden, no rotation being allowed meanwhile The limb is now placed so that the humerus lies on the plane of the patient's back A swathe of appropriate

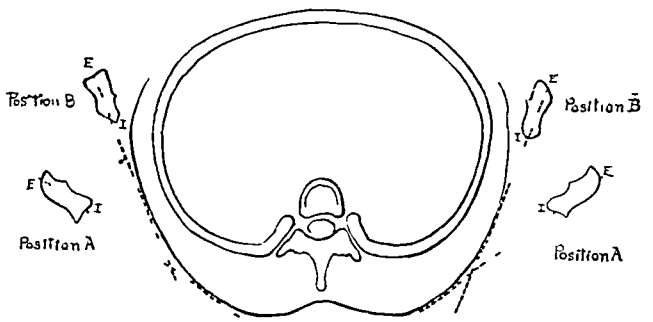



Fig 1—Cross section through trunk and arms at the condylar level Position *A* the normal one is retained in the lateral hyperflexion position Position *B* is the one assumed when the forearm rests on the chest *E* and *I* represent the external and internal condyles respectively

width, and long enough to encompass the trunk three times is made of several reduplications of plaster-of-Paris bandage on a strip of lint or sheet wadding With one end applied to the posterior aspect of the sound axilla, the swathe is now carried, diagonally across the back, over the shoulder, around the affected forearm and humerus, back to the place of starting, where it passes over the first end and continues around the front of the chest, again to envelop the forearm and arm The swathe should not be reversed as it comes over the shoulder and, diagonally, around the wrist and forearm Turns of plaster bandages can be added to give further stability, one or two being carried around the hand as far as the metacarpophalangeal joints, for support of the wrist

Fig 2—Plaster dressing with limb in lateral hyperflexion position

and the prevention of an irksome droop The illustrations owing to an error, unfortunately do not show this addition (Fig 2)

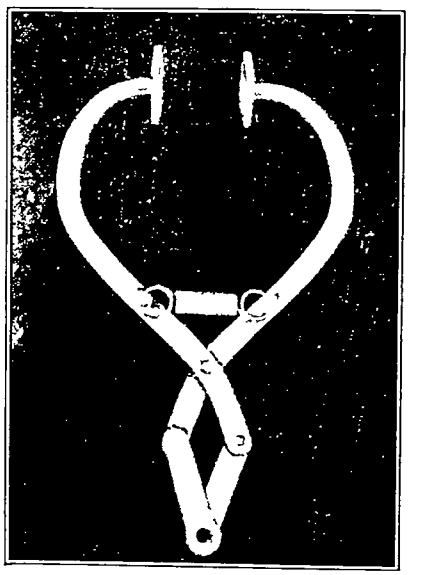
This hyperflexed position is maintained for ten days, then the dressing is removed and the forearm moved through an arc of from 20 to 45 degrees and placed in the flexed position on the chest (Jones position) for ten days, massage and slight motion being used every second day Between three and four weeks after the reduction, the forearm and arm are placed on a right-angled splint, which is slung around the neck and bound to the body After all dressings are removed, the patient is told to exercise the elbow, short of discomfort Whenever full flexion becomes difficult, at any stage of the early treatment, the member is put up in the flexion position again for twenty-four hours At no time should passive motion be vigorous enough to cause lasting discomfort I prefer letting the result stand or fall on active rather than passive motion

## DEVICE TO HOLD SUSPENSION TACKLE ON THE JAMB OF A DOOR

WILTON H ROBINSON M D, PITTSBURGH

While suspension is relatively little used now in the application of plaster casts, there occasionally turns up a case in which it is desired to suspend the patient by the Sayre headpiece In such a contingency we are sometimes faced with the problem of where to attach the apparatus overhead

The device illustrated is simple and inexpensive, and answers the purpose well



Device to hold suspension tackle on jamb of door

It is made from a pair of heavy ice tongs that have a chain handle The handle is removed and two short pieces of steel substituted, a hole being provided in the lower end of each to receive a hook or piece of rope to attach the head apparatus The ends of the tongs are blunted, and to each is brazed a heavy piece of iron or steel, 3 or 4 inches long and about an inch wide It is best to attach a spring between the arms of the tongs to guard against their unexpected fall on the patient

In use, the two plates at the ends of the arms are placed against the plaster immediately above the jamb of an open door way They will not damage the plaster, will remain in position, and will carry any weight desired

5083 Jenkins Arcade Building

## PARAFFINOMA OF THE VAS DEFERENS AN UNUSUAL COMPLICATION OF INGUINAL HERNIA

LEIGH F WATSON M D CHICAGO

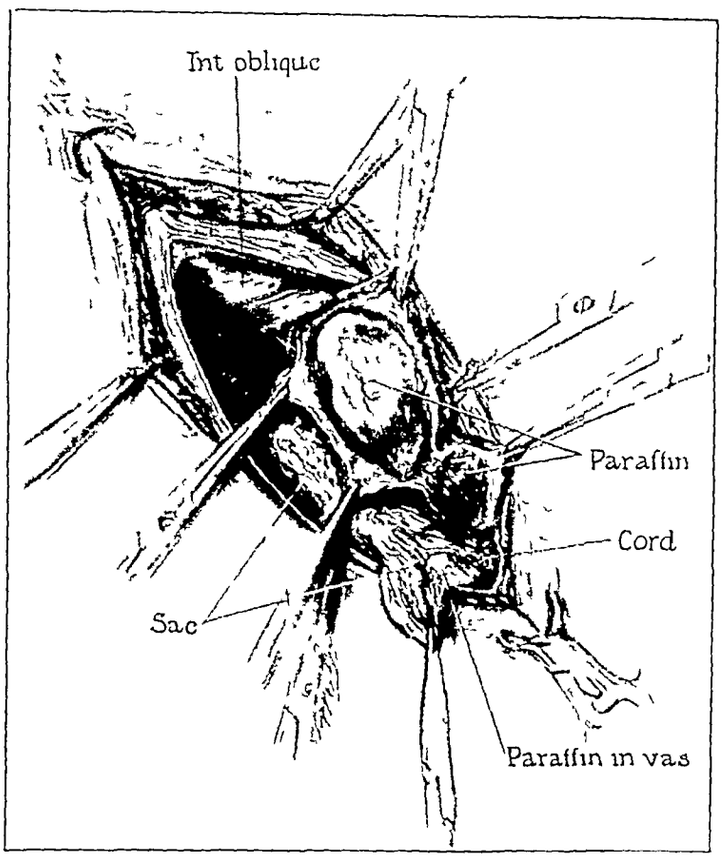
This case is reported to call attention to a very unusual complication of the paraffin injection treatment of hernia

### REPORT OF CASE

A man, aged 42 had had a right oblique inguinal hernia for nine years Eight months before I examined it, a charlatan attempted to cure it by injecting paraffin Immediately after the injection, the patient noticed a large swelling in the region of the internal ring, and a smaller mass a little lower which involved the spermatic cord The cord was swollen and painful and the right testis was tender on pressure The patient complained of constant discomfort from the paraffin masses, and said that they were much more painful than the original hernia At operation under local anesthesia I removed a large mass of paraffin measuring 1 by 1 by 2 inches from the internal oblique muscle another one measuring ½ by ½ by 1 inch from the conjoined tendon

on the inner side of the sac, in front of the spermatic cord, and a smaller mass involving the vas deferens, which was occluded at this point It was evident that the vas had been punctured and injured by the needle used for injecting the paraffin I resected the vas and anastomosed the ends

The hernial sac was 3 inches long, and a tongue of omentum was firmly adherent to the fundus The density of the adhesions was evidence that considerable inflammation had




Paraffin injection of the cord and internal oblique muscle

been produced at one time, this might have been due to the injection of paraffin into the sac, although it is often found in patients who have worn a truss with a hard pad and a strong spring

On account of the high percentage of recurrence following operation for "paraffin hernia," I closed the wound, using the regular Bassini operation combined with a lateral displacement of the cord on to the internal oblique muscle, one-half inch internal to the deep suture line This permits the fascial flaps to unite firmly with the deep suture line, and it reenforces the weak spots—the internal ring, the lower end of the incision over the pubic bone, and the line of deep sutures

Operations for paraffinomas complicating hernia are common because the paraffin injection treatment has been widely practiced by charlatans who advertise to "cure without a knife or truss" If the hernia was not a source of discomfort before injection, it will be afterward, for the hard masses of paraffin sooner or later cause inconvenience and pain sufficiently severe to compel the patient to seek relief by operation The pain, irritation and annoyance are most marked in those patients who have had paraffin injection into the loose cellular tissue of the cord or into the sac wall, resulting in a freely movable mass that passes up and down in the canal synchronous with deep breathing or muscular effort

Paraffin masses exert pressure on the intestine in the sac, thus increasing the danger of strangulation, subsequent operation is more difficult, and the percentage of recurrence is high The injections do not obliterate the sac, nor do they close the inguinal canal, even if deposited in the sac or outside the sac in the canal The paraffin becomes encapsulated, and is gradually replaced by a mass of scar tissue, which has a tendency to undergo malignant change

I have found the paraffin masses in the subcutaneous tissues, in the inguinal canal, in the hernial sac, in the external and internal oblique and transversalis muscles and fasciae, in Poupart's ligament, in the conjoined tendon, and in the spermatic cord

Among the serious accidents that have followed this treatment may be mentioned injection of paraffin into the skin or subcutaneous tissues, producing necrosis and gangrene, injection into the vas deferens or other cord structures, the forcing of paraffin into the peritoneal cavity, resulting in simple inflammation and adhesions, the wounding of the intestine or appendix with the needle, causing peritonitis, injections into the blood vessels, followed by pulmonary or cerebral embolism or a sudden blindness from plugging of the artery of the retina, and occlusion of the iliac or the femoral artery, with gangrene of the extremity necessitating amputation

30 North Michigan Avenue

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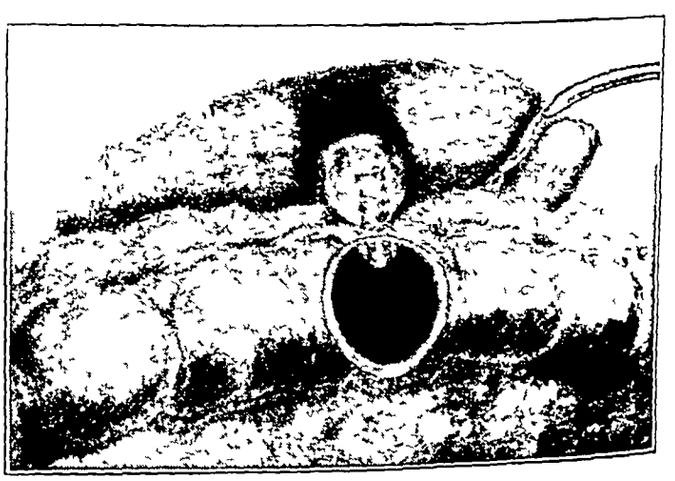
## CHOLECYSTOCOLOSTOMY WITH A TUBE AND THE POSSIBILITY OF A VALVE FORMATION

WALTER D WISE, M D, BALTIMORE

In the case of Miss C O'H, admitted to Mercy Hospital, Sept 14, 1923, suffering with a carcinoma of the head of the pancreas (confirmed by microscopic section) and complete obstruction of the common duct, a cholecystenterostomy was not done at the primary operation, September 21, because of the fear of hemorrhage, the patient being very deeply jaundiced This fear was substantiated by three days of postoperative bleeding from the abdominal incision, in spite of careful suturing and tying, coagulants, etc After the jaundice disappeared, it was decided to do a cholecystenterostomy to obviate the necessity of frequent dressings and in the hope that the patient might leave the hospital

November 20, the gallbladder, on being exposed, was found to be shrunken down to dimensions of about 7 cm in length and 2 cm in diameter, and partially buried in the liver It was so easily torn as to make it impossible to free and conserve enough of it to do a cholecystenterostomy, even by using a button for intestinal anastomosis The duodenum was situated so far posteriorly and so densely covered with adhesions as to prevent its being used in any anastomosis that might be done The choice was between the colon and the stomach The following operation was done

A piece of rubber tubing, 1 cm in diameter, was cuffed, and the cuffed end was placed in the gallbladder A purse-



Anastomosis, showing valve

string suture of catgut was run around the friable gallbladder, taking a large bite in the liver, no attempt was made to invert the gallbladder edge, because of its friability Then the colon was brought up and sutured to the liver around the tube, over this a layer of omentum was sutured to the liver, making what appeared to be a water-tight repair A suitable location in the colon was then chosen and the free end of the tube inserted in a puncture made by the cautery, the purse-string having been previously placed Cigaret drains were placed near the anastomosis, and the abdomen was closed

The convalescence was uneventful, there being no leakage of bile whatsoever, and on the third day there was a brown stool, something that had not occurred since before admission to the hospital Bowel movements were regular, of a normal color and semisolid consistency, there was no diarrhea at any time (Later, large quantities of morphin necessitated the use of enemas) The incision healed promptly On the thirty-second day, the tube was passed by rectum There was no evidence, at any time, of infection of the biliary tract

The patient died, January 8, greatly emaciated and showing a large tumor in the region of the pancreas This operation is reported because it was successful, in a case in which a cholecystenterostomy could not be done by the usual methods and, in which a button could not be used The colon was chosen instead of the stomach because it was feared that the tube would not pass the pylorus or ileocecal valve

Perhaps an improvement would be the use of a larger tube and two purse-string sutures so as to form a valve, somewhat as in a Senn gastrostomy, thus lessening the chance of infection of the biliary tract, after passage of the tube An anastomosis with a longer valve could readily be made, but would be less likely to remain patent

## THE TIMING OF INSULIN DOSES*

FREDERICK M ALLEN, M D MORRISTOWN N J

The original plan of giving insulin just before meals is followed as a routine by most physicians, and works well in most cases Difficulties are encountered, however, in certain severe cases requiring high dosage In these there is a tendency to glycosuria or undue hyperglycemia before or after breakfast, and to hypoglycemia in the latter part of the day Devices of increasing or decreasing the total dosage or diet, or altering the quantities of individual meals or doses, are still baffled by one or the other of these dangers A fourth dose during the night is successful, but inconvenient Accordingly, many practitioners resign themselves to the inherently bad and dangerous system of permitting glycosuria during at least a part of the day, feeling that this is at any rate the lesser of two evils

### TIME OF DOSES

In rare cases, the diabetes may be so severe that four doses during twenty-four hours are unavoidable But for cases of any ordinary severity, there is need of a method by which a conscientious physician can accomplish the purpuse of preventing glycosuria or extreme fluctuations of the blood sugar with three doses a day These fluctuations are due to the cumulative effect of the doses of insulin during the day and the long period without insulin during the night It is unnecessary to have recourse to the expedient (usually inconvenient) of giving breakfast extremely early and supper extremely late Insulin is concerned not merely in the disposal of food during the digestive period but also in its utilization throughout the twenty-four hours In the type of case mentioned, the long night period can be shortened by giving the first insulin dose about an hour before breakfast (usually immediately on rising) and the third dose about an hour after supper or even at bedtime

The first dose reduces the morning hyperglycemia, so that glycosuria does not occur either before or after breakfast The cumulative effect of the morning and noon doses always prevents glycosuria at supper time The evening dose, when postponed, does not augment this cumulative effect so as to cause hypoglycemia but serves instead to repress the hyperglycemia which tends to develop during the night

The quantities of the single meals or doses can, of course, still be varied to suit the individual need or convenience of the patient

### RESULTS

In some six months' use of this plan we have encountered no serious hypoglycemia or other difficulties, and we are therefore adopting it as a routine for most severe cases requiring high insulin dosage

*From the Physiatric Institute

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER, SECRETARY

**NEUTRAL ACRIFLAVINE-ABBOTT** (See New and Nonofficial Remedies, 1924, p 24)

The following dosage form has been accepted

*Neutral Acriflavine Abbott for Intravenous Injection 0 1 Gm Ampules*

**INSULIN** (See New and Nonofficial Remedies, 1924, p 149)

**Insulin-Stearns**—A brand of insulin

Manufactured by Frederick Stearns and Company, Detroit under license from the Governors of the University of Toronto No U S trademark

*Insulin Stearns Single Strength* 5 Cc vials containing 10 units in each cubic centimeter

*Insulin Stearns Double Strength* 5 Cc vials containing 20 units in each cubic centimeter

**DIGALEN-ROCHE (CLOETTA)**—A sterile solution containing in each cubic centimeter 0 3 Mg of an active derivative of digitalis as isolated by Cloetta, containing 7 5 per cent of alcohol

*Actions and Uses*—The same as those of digitalis After a time under conditions which have not yet been determined satisfactorily, digalen-Roche (Cloetta) sometimes deteriorates, even when the container remains unopened Experiments made under the direction of the Council show that the preparation has varied both quantitatively and qualitatively in its action

*Dosage*—The average dose is from 1 to 2 Cc (15 to 30 minims) The maximum daily dosage is 6 Cc (90 minims) Digalen-Roche (Cloetta) is also suitable for intramuscular and intravenous injection Intravenous injections of 1 Cc (15 minims) may be repeated at intervals of one-half to one hour as necessary

Manufactured by The Hoffmann La Roche Chemical Works New York No U S patent U S trademarks 43 593 83 738

*Ampules Digalen Roche (Cloetta) 1 1 Cc*

*Tablets Digalen Roche (Cloetta)* equivalent to digalen Roche (Cloetta) 0 5 Cc

*Hypodermic Tablets Digalen Roche (Cloetta)* equivalent to digalen Roche (Cloetta) 1 Cc

Digalen Roche (Cloetta) is prepared as follows

The dried and finely powdered leaves of digitalis are extracted with diluted alcohol then the extract is mixed with lead acetate solution in order to remove chlorophyll and resins and filtered From this filtrate the excess of lead is precipitated with sodium sulphate and the alcohol distilled off in vacuo From the remaining aqueous solution the active derivative of digitalis contained in digalen Roche (Cloetta) is extracted by ethereal solvents and precipitated afterward in an amorphous and pure condition according to a special secret method Each cubic centimeter of digalen Roche (Cloetta) contains the active derivative of digitalis 0 3 Mg in a menstruum consisting of glycerine 1 000 parts distilled water 1 600 parts and alcohol 7 5 per cent making an isotonic sterile solution

Digalen Roche (Cloetta) is a colorless or slightly yellowish liquid of an agreeable aromatic odor with a sweet taste which subsequently becomes bitter

The active derivative contained in digalen Roche (Cloetta) is an amorphous white or slightly yellow powder It is stated to have a solubility five times as great as that of crystallized digitoxin It is stated to dissolve readily in alcohol and chloroform and less readily in ether It has an intensely bitter taste and causes violent sneezing

To 2 Cc of digalen Roche (Cloetta) add a few drops of diluted acetic acid and extract with chloroform Evaporate the chloroform extract and dissolve the residue in about 2 Cc. of glacial acetic acid containing a trace of ferric chloride To this solution add strong sulphuric acid without mixing so as to form a separate layer a brown ring forms between the two layers which becomes broader after some hours and expands toward the top in a blue-green to black shade and toward the bottom in a reddish brown one The acetic acid finally acquires a dark green blue color

War Raises Tuberculosis Death Rate—The standardizing of the tuberculosis mortality in England and Wales brings out more fully the influence of the war in raising the tuberculosis death rate The figures now available for that period are higher than those previously published A rise of 41 per cent occurred in 1918 over the 1923 mortality—Drolet, G J *Am Rev Tuberc* 8 400 (Jan.) 1924

# PROCEEDINGS OF THE CHICAGO SESSION

## MINUTES OF THE SEVENTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT CHICAGO, JUNE 9 13, 1924

## *HOUSE OF DELEGATES*

### *First Meeting—Monday Morning, June 9*

The House of Delegates met in the assembly room at the American Medical Association headquarters, and was called to order at 10 a m by the Speaker, Dr F C Warnshuis, Grand Rapids, Mich

**Preliminary Report of the Committee on Credentials**

The Chairman of the Committee on Credentials made a preliminary report of this committee, stating that the committee desired at this time to report progress, and that more than a quorum of delegates had qualified

As there was no objection, the report was accepted

Next in order was the roll call by the Secretary

The Secretary stated that the registration of the delegates in attendance recorded the presence of more than a quorum

A quorum being present, the Speaker announced that the House was constituted and ready for the transaction of business

The next order of business was the presentation, correction, and adoption of the minutes of the Seventy-Fourth Annual Session

The Secretary stated that the minutes had been printed and circulated among the members of the House of Delegates, with the request for criticism or corrections, but none had been received

It was moved that the reading of the minutes of the Seventy-Fourth Annual Session be dispensed with and approved as printed

Seconded and carried

**Addresses of Executive Officers**

Drs F C Warnshuis, Speaker, and William Allen Pusey, President-Elect, addressed the House See addendum

## Reports of Officers

### REPORT OF SECRETARY

Dr Olin West, Secretary, presented the following report, which was referred to the Reference Committee on Reports of Officers

*To the Members of the House of Delegates of the American Medical Association*

I have the honor of submitting the following report for the year 1923-1924

MEMBERSHIP

The membership of the Association as enrolled on April 1, 1924, was 90,056, which is 1,537 more than the membership reported to this house at its last session

FELLOWSHIP

The Fellowship roster contained 54,063 names, May 1, 1924 This represents a gain of 619 as compared with the number of Fellows reported last year While 3,762 new names were added to the roster during the year, 3,143 were removed These removals were due to deaths, 606, resignations, 905, nonpayment of dues, 583, not found, 23, not eligible, 1,026

Even yet there is considerable misunderstanding concerning the requirements for Fellowship, and its privileges, in spite of oft repeated efforts to present the facts forcefully to the attention of all members of the Association It frequently happens that those who have been affiliated as members for many years, but have not qualified as Fellows, are greatly astonished to find that they are not Fellows, less frequently, those who have had the status of Fellows for a long time suddenly become imbued with an ardent desire and make formal application for the relationship that they have occupied for years Nevertheless, there seems to be a growing appreciation of Fellowship and a growing tendency on the part of members generally to apply for, and to maintain permanently, that relation

The number of Fellows in each state is shown in the accompanying table

ORGANIZATION OF CONSTITUENT ASSOCIATIONS

| State | Number Counties in State | Number Component Societies in State Assn | Number Counties in State Not Organized 1923 | Number Counties in State Not Organized 1924 | Number Physicians in State (8th Ed Directory) | Number Members of State Association 1923 | Number Members of State Association 1924 | Number A M A Fellows in State |
|---|---|---|---|---|---|---|---|---|
| Alabama | 67 | 67 | | | 2,313 | 1,666 | 1 662 | 468 |
| Arizona | 14 | 11 | 3 | 3 | 372 | 143 | 22a | 16a |
| Arkansas | 75 | 66 | 10 | 10 | 2 303 | 1,097 | 1,197 | 4a9 |
| California | 58 | 40 | 16 | 16 | 7,549 | 3 335 | 3,929 | 3 151 |
| Colorado | 63 | 25 | 25 | 25 | 1,882 | 1,070 | 1,090 | 671 |
| Connecticut | 8 | 8 | | | 1,727 | 1,112 | 1 160 | 73a |
| Delaware | 3 | 3 | | | 265 | 141 | 147 | 8' |
| Dist Columbia | | | | | 1 924 | 549 | 566 | 380 |
| Florida | 54 | 28 | 24 | 24 | 1,348 | 622 | 514 | 336 |
| Georgia | 154 | 93 | 49 | 54 | 3,274 | 1,a95 | 1,716 | 8'4 |
| Idaho | 44 | 10 | 18 | 17 | 452 | 273 | 260 | 15a |
| Illinois | 102 | 95 | 4 | 4 | 10,716 | 7,175 | 6 6a3 | 4 777 |
| Indiana | 92 | 84 | 2 | 6 | 4,3a3 | 2,436 | 2,735 | 1,383 |
| Iowa | 99 | 97 | | | 3,490 | 2 384 | 2,4a9 | 1 40( |
| Kansas | 105 | 60 | 40 | 31 | 2,492 | 1 a77 | 1,640 | 889 |
| Kentucky | 120 | 110 | 10 | 10 | 3 155 | 2 028 | 1,9a9 | 480 |
| Louisiana | 64 | 37 | 25 | 24 | 2,0a8 | 1,109 | 1,169 | 671 |
| Maine | 16 | 15 | 1 | 1 | 1,067 | 746 | 767 | 3a4 |
| Maryland | 23 | 21 | 1 | | 2 349 | 1 288 | 1,231 | 794 |
| Massachusetts | 14 | 18 | | | 5,977 | 4 0a9 | 4 0a8 | 2 6a1 |
| Michigan | 83 | 57 | 5 | 7 | 4 a53 | 2,972 | 3,181 | 1 66a |
| Minnesota | 86 | 38 | 5 | 6 | 2,774 | 1,827 | 2,042 | 1 a46 |
| Mississippi | 81 | 36 | 3 | 4 | 1,792 | 887 | 1 024 | a00 |
| Missouri | 114 | 101 | 6 | 6 | 5,827 | 3,564 | 3 292 | 1 966 |
| Montana | 51 | 16 | 35 | 35 | 568 | 325 | 303 | 1a2 |
| Nebraska | 93 | 56 | 30 | 34 | 1 913 | 1 270 | 1,239 | 708 |
| Nevada | 17 | 3 | 14 | 14 | 140 | 107 | 115 | 62 |
| New Hampshire | 10 | 10 | | | 615 | 520 | 499 | 266 |
| New Jersey | 21 | 21 | | | 3,362 | 1,935 | 2,092 | 1,3a9 |
| New Mexico | 29 | 13 | 15 | 15 | 399 | 325 | 201 | 160 |
| New York | 62 | 60 | 1 | 1 | 16 857 | 9,879 | 10 087 | 6,109 |
| North Carolina | 100 | 71 | 20 | 20 | 2,226 | 1,367 | 1 656 | 593 |
| North Dakota | 53 | 14 | 2 | 2 | 517 | 417 | 385 | 2a7 |
| Ohio | 88 | 85 | 3 | 3 | 8 086 | 4,834 | 4,7a9 | 2 5a6 |
| Oklahoma | 77 | 69 | 8 | 9 | 2 600 | 1,586 | 1,539 | 690 |
| Oregon | 36 | 16 | 1 | 1 | 1,158 | 578 | 589 | 341 |
| Pennsylvania | 67 | 63 | 4 | 4 | 11,241 | 7,209 | 7,433 | 4,54' |
| Rhode Island | 5 | 6 | | | 754 | 388 | 399 | 282 |
| South Carolina | 46 | 41 | 5 | 5 | 1,368 | 873 | 916 | a8a |
| South Dakota | 68 | 11 | 1 | 1 | 630 | 3a6 | 358 | 226 |
| Tennessee | 96 | 67 | 28 | 27 | 3,228 | 1,554 | 1,711 | 6a8 |
| Texas | 248 | 135 | 66 | 66 | 6,094 | 3 628 | 3,6a0 | 1,7a9 |
| Utah | 29 | 6 | 23 | 23 | 497 | 325 | 3a6 | 233 |
| Vermont | 14 | 10 | 3 | 3 | a56 | 394 | 389 | 1a3 |
| Virginia | 100 | 32 | 43 | 43 | 2,503 | 1,773 | 1,843 | 68a |
| Washington | 39 | 19 | 19 | 20 | 1,756 | 1,121 | 1,122 | 6a3 |
| West Virginia | 55 | 28 | 14 | 14 | 1,751 | 1,496 | 1,142 | 543 |
| Wisconsin | 71 | 53 | 1 | 1 | 2,772 | 1,921 | 1,914 | 1 1a0 |
| Wyoming | 22 | 7 | 12 | 12 | 263 | 134 | 163 | 8a |
| Foreign | | | | | | a0 | a0 | 16a |
| Alaska | 5 | | | | | 92 | 92 | 44 |
| Hawaii | 7 | | | | | 98 | 125 | a0 |
| Porto Rico | | | | | | 129 | 1a1 | a8 |
| Philippine Isl | | | | | | 110 | 102 | 13 |
| Canal Zone | | | | | | | | |
| Totals | 3,047 | 2 032 | 595 | 597 | 145 966 | 88 519 | 90,0a6 | 51 7a1 2,58' |
| Commissioned Officers, Honorary and Affiliated Fellows | | | | | | | | a1 0a3 |

CONSTITUENT ASSOCIATIONS

The fifty-four constituent state and territorial associations of the American Medical Association are, for the most part, worthily serving the purposes of medical organization The most progressive are constantly widening the scope of their activities or are centralizing effort for the accomplishment of specific tasks of major importance These are aggres-

sively advancing the common cause Some associations are maintaining close contact with other state organizations, lay or semiprofessional, and so are exercising leadership in public movements in which the interest of the medical profession is very real The scientific work of most of the state associations is constantly improving

Six associations, namely, the Ohio State Medical Association, the State Medical Association of Texas, the State Medical Society of Wisconsin, the California Medical Association, the Missouri State Medical Association, and the Medical Society of Virginia, now have full-time secretaries, and one or two others are considering the employment of such officers While a few of the best organized and most active state organizations have done splendid work under the secretarial direction of physicians who devote only a part of their time to such work, the records they have made simply reflect the devotion, ingenuity and executive ability of their secretaries There can be little doubt that the association whose business receives the attention of a competent full-time secretary, with that business his only concern, will have decided advantages and will maintain more efficient organization than that one whose executive officer must, of necessity devote most of his time and energy to his own personal affairs The smaller associations cannot afford the expenditure necessary for the employment of a full-time secretary, but there are a number with membership large enough to provide easily for the maintenance of such an officer, and, if he is of the right sort, his work will generally result in securing a larger and better satisfied membership Details will be more carefully attended to closer contact can be established with the county societies and the individual member, better records can be kept, financial income can be conserved or expended to better advantage, general officers can be kept better informed and can be stimulated to better service and the business of the association generally can be transacted more promptly and more profitably

This attempted presentation of the case for the full-time secretary must not be in any manner interpreted to the disparagement of any of those who have given such devoted service as part-time secretaries Their work stands for itself They have won the respect and gratitude of the members of this Association in their several states and certainly they have the lasting gratitude of the compiler of this report, to whom they have extended every possible kindness and assistance

Thirty-one state medical journals are now being published, and these are contributing powerfully to the effectiveness of state and county organization There is a general tendency toward increased membership assessments in the state societies, a hopeful sign that indicates a desire on the part of officers and members to widen the field of helpful activities, and to increase and improve the efficiency of these organizations

Some of the constituent associations by reason of the small medical population in their states, cannot work as comprehensively or as intensively as the stronger organizations, but most of these smaller societies are nevertheless carrying on in a manner that entitles them to great credit and makes them altogether worthy of the most helpful consideration and the very earnest respect of this Association It may reasonably be said that some of the larger associations might well "take a leaf from the book" of the smaller societies and receive from them an inspiration that might lead to more and to better work and, consequently, to greater benefits for individual members It is not desirable that the effort of medical societies should be scattered over too wide a territory or directed toward so many matters that those of fundamental importance will fail to receive the constant careful attention they should have, but it is desirable and necessary that every affiliated society of this Association shall work vigorously and persistently for the solution of common problems and, especially, for the scientific and economic improvement of its members

### Component County Societies

The past year has been one of splendid achievement for many component county societies, while it has been nothing more than a mark on the calendar for a deplorably large number of others It is not an uncommon occurrence to find on return information cards, sent out from the office of the secretary to county societies the notation "No meetings during the past year" In a few instances, information has come back to the effect that no meetings have been held for two, or even for three years In some cases there are extenuating circumstances, but too often the situation is one that has developed as the result of apathy and indifference that might have been prevented These inactive societies, existing in name only, are "kept on the books" because their members seek certain advantages that can be secured only through membership and are willing to pay the nominal sum required as annual dues to gain for themselves certain privileges or remunerative connections

A number of independent societies have been organized, in various states, in territory already supplied with county societies The relatively large number of inactive and moribund county societies, and the conditions that have inspired the organization of independent local societies, offer a decided challenge to the general officers and especially to the councils of the state associations concerned

### Councilor District Societies

In some states the active maintenance of district societies seems to have worked greatly to the advantage of medical organization generally and to have provided powerful stimulation to component county societies Of course, the county society is the basic and necessary unit of medical organization in the United States and must so continue But it is conceivable and, indeed, is probable that district societies, with worth-while meetings twice or three times a year, may prove a powerful factor in maintaining effective organization This suggestion for the promotion of councilor district societies is offered as being worthy of the serious consideration of this House of Delegates and the officers of all constituent state associations Due provision is made for the establishment of district societies in the constitution and by-laws for state associations

### The Individual Member

Medical societies are intended to promote the welfare of the individual member and to serve the interest of the public Of course, the individual cannot get much benefit from his connection with a society unless he contributes something to the society But it is possible for medical organization, because it can exert organized effort, to contribute relatively more to the individual than he can contribute to the mass, and that is what our medical societies must do if their intended purpose is to be carried out

The outstanding possibility and the outstanding responsibility of organized medicine is to contribute to the scientific improvement of its affiliated physicians—to make every one of them a better physician When the American Medical Association carries really helpful service, even beyond that which it now performs in no small way, to the individual physician in its membership, through his own state and county society, medical organization in the United States will be made permanently strong No better service can be performed for the physician and for the public to whom he ministers than that through which he will gain scientific improvement The great mass of the medical profession in this country cannot easily reach educational centers where needed instruction can be secured It may be possible and feasible for the American Medical Association, with the cooperation of state societies, medical schools and individual physicians of ability and established reputation, to carry instruction—not ultra-scientific, but of that practical sort that can be applied in everyday work—through the county medical societies to its members, or, at least, to those of its members who are concerned in keeping themselves informed to the degree that will enable them to become even better practicing physicians This matter, referred to in the report of the secretary submitted to this House at its last annual session will be presented also in the report of the Board of Trustees at this session It is mentioned here only to point out the possibilities for enhancing organizational efficiency through

the medium of actual helpful service carried to the individual member at or near his own home When he is shown that the American Medical Association and its constituent and component units are concerned over his individual welfare, when the people are shown that medical organization, already working mightily for its own members and the public, is determined to do everything possible to make medical service more efficient, then membership in the county society, in the state association, in the American Medical Association, will mean more than ever before, and the influence of organized medicine throughout the land will be greatly strengthened

### CONSTITUTION AND BY-LAWS OF STATE ASSOCIATIONS AND COUNTY SOCIETIES

The constitution and by-laws for constituent state associations, and the constitution and by-laws for component county societies, prepared by a special committee more than twenty years ago, were very generally adopted Since their adoption, many changes have been made by some societies, while none of any moment have been made by others In some instances, very material changes have been made, and there seems to be a tendency toward further and somewhat radical amendment It may be wise to seek the adoption of a reconstructed constitution and by-laws for state associations, and for county societies as well, to be uniform as far as the peculiar conditions in the various states will permit of uniformity There are certain ambiguities in the present instruments which need correction or clarification This may be especially true of sections in which certain authority is delegated by the state association to the county society, and it may also be true that there should be more specific definition of the authority of the state association over *members as members of the state organization*

It is highly important that there shall be no provisions in the constitution and by-laws of the county society that conflict with those of the constitution and by-laws of the state association or of the American Medical Association It is entirely possible that, in some instances at least, there has been too little examination by the state associations into the condition and the amendment of county society constitutions and by-laws, especially the by-laws Each county society is supposed to hold a charter from its own state association, under which it receives certain authority and under which it also subscribes to the government of the state association in certain essential matters The state association, in turn, is a member of the "federacy of constituent associations," which is the American Medical Association, though no charter is issued to a constituent association by the national body

The same thread of organizational principle should run through the whole fabric of organization The rights and privileges of every member should be equal in every unit of organization, except as the need for the present classifications of members and Fellows may affect the situation Our plan of organization is intended to be, and is, thoroughly democratic, and must be so maintained This can be done only as the governing principles are set out in the constitution and by-laws of the Association, of the state association and the county society, so that they shall be applied with all possible uniformity in every organizational unit An occasional revision of all of them, with due regard to the relation of each to the other, and with a view of removing all conflicts, ambiguities and redundancies, would seem to be wise procedure At any rate, the matter is submitted for consideration by this House as being important enough to deserve special study

### RELATIONS WITH OTHER NATIONAL MEDICAL ASSOCIATIONS

The American Medical Association was honored by the presence of an official delegate from the Canadian Medical Association at its session in San Francisco It would seem desirable that closer and even more cordial relations should be established betweeen this and other national organizations of similar character This might be accomplished through the attendance of duly authorized delegates on the annual meetings of the societies concerned, without any obligation with respect to expenses that may be incurred by such delegates

### THE AMERICAN MEDICAL ASSOCIATION BULLETIN

Since Oct 1, 1923, the BULLETIN, as directed by the House of Delegates, has been sent to all Fellows without cost The average monthly circulation of the BULLETIN has been in excess of 55,000 While many commendatory letters indicate that the BULLETIN has been well received and is thought to be a worth-while publication, it has not achieved its greatest possible usefulness, nor will it ever do so until its columns are more freely utilized for discussions by the members of this House of Delegates, the officers of medical societies, and individual members and Fellows

### ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT STATE ASSOCIATIONS

The regular annual conference of secretaries of state associations was held in Chicago in November, 1923 Thirty-four state secretaries were present The transactions of the conference were printed in full in the AMERICAN MEDICAL ASSOCIATION BULLETIN The pleasure and the profit of the occasion were enhanced by the presence and participation in the proceedings of the conference of the presidents and presidents-elect of several state associations, and of several editors of state journals who are not also secretaries The President, President-Elect, members of the Board of Trustees, and departmental heads of the American Medical Association also attended the conference and took part in its work

### APPOINTMENT TO JUDICIAL COUNCIL

Since the last annual session, the President has appointed Dr F W Cregor, Indianapolis, to serve as member of the Judicial Council in place of Dr J H J Upham, elected a member of the Board of Trustees

### REAPPORTIONMENT OF DELEGATES

Section 3, Chapter I, of the By-Laws provides that the House of Delegates shall appoint a committee of five on reapportionment every third year, the speaker and the secretary to be members of this committee This is the year for the reapportionment of delegates from constituent state associations It is respectfully suggested that the selection of this committee should be made as early in the session as possible, in order that it may submit its report in time for the House to give it careful consideration

### PROPOSED AMENDMENT TO CONSTITUTION

The following proposed amendment to the Constitution was submitted at the San Francisco session one year ago, to lie over for action at this annual session

Amend Section 2, Article 6, of the Constitution by striking out the words 'three of whom shall be elected annually, each to serve for three years," and by adding to this section the following *Two trustees* shall be elected annually, except every fifth year, when but one shall be elected, each to serve for five years and until his successor is elected and installed No trustee shall serve for more than two consecutive terms but a trustee elected to serve the balance of an unexpired term shall not be regarded as having served a term unless he has served three or more years Provided, that at the session of the House of Delegates at which this amendment is adopted, two trustees shall be elected to serve three years and one to serve four years, at the next annual session thereafter one to serve three years and two to serve four years, and at the next subsequent session, two or serve four years and one to serve five years, and thereafter every trustee shall be elected as heretofore directed

### COMMUNICATION FROM SECRETARY OF WASHINGTON ACADEMY OF SCIENCES

A letter from F B Silsbee, corresponding secretary of the Washington Academy of Sciences, requests that the House of Delegates give consideration to the following resolution adopted by that academy

*Resolved* That the Washington Academy of Sciences hereby petitions and urge the President, the heads of departments of the federal government and the Congress of the United States to give the welfare of science in the United States their earnest consideration and assistance and to provide by law and by appropriation of the necessary money for the attendance of such scientists of the government as heads of departments may designate at scientific congresses, conventions and meetings in this country, and for the attendance of such scientists of this country both in the government and in private life, as may be recommended to the Department of State by competent authority and approved by the head of that department or the official acting for him, as representatives of the United States of America at international scientific congresses,

conventions and meetings These appropriations would be exceedingly small as compared with the returns from them in great benefits to scientific advance in America, and hence to the promotion of the national welfare

Mr Silsbee asks in his letter that this House adopt resolutions of similar import, and by any other means that may seem feasible endeavor to secure the enactment of law and appropriations by Congress for the purposes indicated in the resolution of the Washington Academy of Sciences

### Official Visits to Meetings of Constituent and Component Societies

The President, President-Elect, Editor and General Manager, members of the Board of Trustees, heads of departments, and the secretary have all made official visits to meetings of state, district and county societies during the year It has not been possible to provide for the acceptance of all invitations to have the Association represented at such meetings, but it is intended that representatives of the Association shall visit its constituent and component societies whenever it can be done without excessive expenditure or without unwarranted interference with the necessary routine work of the Association

### In Appreciation

As ex-officio secretary of the Judicial Council and the Council on Scientific Assembly, the secretary has, of course attended the meetings of these two bodies He has been invited, and has been present at the regular meetings of the other councils and boards of the Association and at meetings of important committees Thus, through the thoughtful courtesy of these official bodies, the secretary has been kept constantly in touch with various activities undertaken by the Association, and has received most helpful assistance From every officer and from the entire official personnel of the Association, from officers of state district and county societies, and from many members and Fellows, the office of the secretary has received kindly consideration and invaluable help for all of which grateful acknowledgment is here offered

OLIN WEST, Secretary

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## REPORT OF THE BOARD OF TRUSTEES

Dr Wendell Phillips, New York, Chairman, presented the following report, which was referred to the Reference Committee on Reports of Officers

*To the Members of the House of Delegates of the American Medical Association*

We herewith present the report of the Board of Trustees for the year ending Dec 31 1923

### The Journal Subscription Department

In the Addenda to the Trustees' Report will be found tables that visualize the main facts regarding the circulation of THE JOURNAL during 1923

Last year, the introduction to this report called attention to the fact that a falling off of 112 had occurred in the circulation of THE JOURNAL in 1922—the second time in twenty-five years that there had been a decrease in circulation, the other time being the second year of the World War, 1916 During the past year, the circulation of THE JOURNAL went back into the progressive list, reaching 80,958—a gain over the previous year of 1,400

No greater effort was made last year with respect to increasing the circulation than in preceding years, in fact, fewer letters and sample copies were sent out For instance In 1922, 167,520 letters were circulated, which brought 2,682 subscriptions, whereas 124,810 circular letters were mailed in 1923 and brought 3,469 subscriptions Also, only 94,000 sample copies were distributed in 1923, as compared with 132,000 in 1922 But it is quite possible that the reduction in the subscription price to $5 had something to do with the increase in circulation, for of the 124,810 letters sent out in 1923, 50,236 were mailed the latter part of November, offering THE JOURNAL at the subscription rate of $5 and 1,931 orders were received Undoubtedly, therefore, at least part of this increase must be credited to the reduction in the subscription price of THE JOURNAL to $5

There were 14,355 new names added to the mailing list, and 12,954 taken off on account of death, ineligibility for Fellowship, resignations, expiration of subscriptions, and nonpayment of dues and subscriptions A large number of those in the two classes last mentioned—several thousand at least—will, of course, remit and resubscribe when they learn that THE JOURNAL has been cut off For instance, in one week of the current year, more than fifteen hundred names were dropped for nonpayment of dues or subscriptions, of these, 75 per cent undoubtedly will remit dues or resubscribe within six months

The increase in the list of subscribers of California, Washington and Oregon is attributed to the San Francisco Session Personal solicitation secured the increases of subscribers in Georgia and New York

The foreign circulation of THE JOURNAL has increased by eighty-five, making the foreign circulation 1,676

### Advertising Department

Reference to the auditor's report will show that the Advertising Department continues to make a good showing, the receipts for 1923 were $617,825, or $17,325 over the preceding year The income from advertisements exceeded the receipts from dues and subscriptions by $149,727

There was a slight increase in the number of advertising pages of THE JOURNAL during the year—2,866, as compared with 2,714 in 1922, which gives an average of approximately three pages increase in each issue

### Cooperative Medical Advertising Bureau

In 1923, the *New Orleans Medical and Surgical Journal* became affiliated with the bureau There are now in the bureau thirty state journals—all but that of Illinois, representing thirty-seven state associations

The cooperation of the American Medical Association with the state journals through the bureau has been of distinct advantage to these journals and to the various state organizations It promotes closer cooperation of these journals, it relieves the editors of the expenditure of time to secure satisfactory advertising, and, above all, it secures an amount of clean, high class advertising that these journals could not otherwise obtain In the auditor's report it will be seen that the commissions rebated to the state journals in 1923 amounted to $5,500

### Spanish Edition

In the Trustees' report of last year, attention was called to the handicap resulting from the difficulty in having money transmitted from foreign countries, and particularly to the depreciation in the currency of many of these countries To meet this condition unfavorable to the circulation of the Spanish Edition of THE JOURNAL, the Board decided to accept the currency of the country on the 1914 basis, the Rockefeller Foundation agreeing to assume the deficit The adoption of this policy has not proved successful, but the Board has adopted other measures of promoting the circulation of this periodical and in the transmission of money which we believe will succeed In fact, a study of the question of the circulation of the periodical and of the facts related thereto presents no reason for discouragement

Reference to the auditors' report will show a loss of $7,615 02, as against a loss of $11,171 08 in 1922 and an even larger loss in 1921 As in former years, the Rockefeller Foundation bears one-half the loss in the publication of the Spanish Edition It is the opinion of the Board that a continued energetic campaign in securing subscriptions to and advertisements for the Spanish Edition will gradually reduce the deficit in its publication until it may be issued without loss to the Association

Attention is called to the fact that the Spanish Edition represents American medicine abroad It promotes scientific medicine and a closer fraternal relationship with our colleagues in Spanish-speaking countries

The present subscription list includes 2,667, the total circulation is 4,100 at the end of December, 295 names were

removed from the list, of which 200 were for the nonpayment of the subscription Many of these will renew their subscriptions

### Special Journals

The circulation of the special journals for 1923 is as follows Archives of Internal Medicine, 2,482, a loss of 44 over the year 1922, American Journal of Diseases of Children, 2,770, a loss of 71 subscribers over that of 1922, Archives of Neurology and Psychiatry, 1,248, a gain of 45 over 1922, Archives of Dermatology and Syphilology, 1,314, a loss of 2 subscribers over that of 1922, and the Archives of Surgery, 2,676, a loss of 255 subscribers over that of 1922

The profit and loss on the special journals for the last two years is shown in the table

| | 1922 | 1923 |
|---|---|---|
| Internal Medicine | Gain $2,730 75 | Loss $ 379 38 |
| Children's Journal | Gain 6,206 62 | Gain 4,558 19 |
| Neurology and Psychiatry | Loss 510 98 | Loss 550 09 |
| Dermatology and Syphilology | Loss 1,252 45 | Loss 2,814 26 |
| Surgery | Gain 2,092 91 | Gain 2,659 93 |

The profit from the publication of all the special journals was $3,474 39

### Archives of Otolaryngology

On the request of a large number of Fellows who specialize in diseases of the ear, nose and throat, the Board has decided to publish another special journal—the Archives of Otolaryngology Publication will be begun on or about Jan 1, 1925 The following Fellows have been elected by the Board to serve as the Editorial Board of the new journal Drs George E Shambaugh, Chicago (Chairman), Isidor Friesner, New York, Chevalier Jackson, Philadelphia, Robert C Lynch, New Orleans, Greenfield Sluder, St Louis, and Eugene A Crockett, Boston The members of the Editorial Board were selected from nominations made by a large number of Fellows who specialize in otolaryngology

It must be borne in mind that all of these periodicals are of special character, and appeal to the physician who is practicing in some narrow field rather than to the general practitioner The circulation of each one will never be large, and it is not expected that a profit of any importance will ever be made from their publication The earnings of each one of the special journals can probably be made larger by carrying a reasonable number of selected and high class advertisements in each issue The Board is of the opinion that a reasonable amount of advertising should be carried in the special journals, and that any advertisement which is good enough for one of the Association's publications should be acceptable for all the publications of the Association An objection has been made to advertising in the special journals on the plea that they are scientific So is The Journal of the American Medical Association—not one whit less scientific than the special journals

The board believes that, so far as possible, all periodicals published by the Association should be carried on without a loss, but these special journals are of such advantage and importance to the medical profession and to American medicine that they should be continued even though there may be a loss in money in publishing them

### Quarterly Cumulative Index

Last year the Board called attention to the circulation of the Quarterly Cumulative Index, which reached 1,129 and was considered satisfactory

The circulation for 1923 was 1,201, a gain of 72 over the circulation in 1922 The foreign list is creeping up gradually, and there is every reason to believe that this will increase, as all important medical libraries abroad will subscribe for it The foreign subscribers for 1923 were 147, an increase of 21 over 1922

There was a loss of $8,092 94 in the publication of the Index for 1923, as compared with a loss of $5,087 in 1922 This can be accounted for by an increase in the number of pages and an additional expense in the conduct of the Association library

Although the Index is issued at a loss, it must be remembered that it is one of the means by which the Association promotes scientific medicine and indicates to the world what the American profession is doing in medical science

In this connection, on the recommendation of the Editor, the Board has approved the amplification of the Abstracting Department This will facilitate and make available better abstracts for The Journal and the special journals, and will provide these facilities for Fellows and Members of the organization

In connection with the Library, there is being developed a package lending service which will provide Fellows and subscribers with packages of reprints and publications on outstanding medical subjects These may be used for reference and then returned The cost will be nominal, and calculated merely to pay expense of sending

### Hygeia

This magazine is now conducted by an editorial board consisting of Drs John M Dodson, Morris Fishbein and Arthur J Cramp, with Miss Jane Pine as managing editor To judge from reports received from physicians and laymen, Hygeia seems to meet general approval and to justify the Association in launching it as a means of education of the public in personal hygiene and public health

From the beginning, the efforts of the Subscription Department have been energetic and well directed in the attempt to extend its circulation At the beginning, eight months' subscription was offered at one dollar, one-half the regular price Later a reduced price was fixed for clubs, premiums were given, including a 9 inch statue depicting Hygeia, advertisements were run in local papers of selected communities, a representative of Hygeia attended meetings of educational and dental associations in the effort to gain subscriptions, sample copies and a special letter were sent to home owners in selected communities, four national life insurance companies volunteered to place a descriptive circular of Hygeia in all letters sent to policyholders, and other methods have been utilized to secure subscriptions to the periodical

The total circulation of Hygeia, Dec 31, 1923, was 23,687 Of these subscribers, 14,175 were physicians, including those resident in the United States and its insular possessions, in Canada and other foreign countries, in the navy and in the army The number of laymen who are subscribers is 9,512 Probably one half of the copies going to laymen were ordered by physicians Much credit must be accorded to such physicians for their hearty cooperation in extending the circulation of the magazine Eight county medical societies in as many states sent in 2,422 paid subscriptions, the Allegheny County Medical Society of Pennsylvania taking the lead with 1,670 subscriptions

As anticipated by the Editor and General Manager and by the Board, the publication of Hygeia is an expensive venture The total expense for its publication in 1923 was $90,496 50, the income from subscriptions, advertising etc, was $51,505,88, making a net loss of $38,990 84

Based on the experience of last year, it is fair to infer that it will be several years before Hygeia becomes a self-supporting venture of the Association It is a splendid means of educating the public in personal hygiene, in the principles of public health and in the accomplishments of modern medicine The Board believes that the Association should continue its publication It must be recognized that, if Hygeia is to fulfil its mission and if it is to be carried on without financial loss to the Association, it must receive support from a greater number of Fellows and Members of the Association If a majority of the Members and Fellows of the Association would become regular subscribers and induce their patients and friends to take the magazine, the success of the magazine would be assured Without this sincere cooperation on the part of the Members and Fellows, the best directed efforts of the Subscription Department at headquarters will afford moderate success at best

### Council on Pharmacy and Chemistry

The aims, objects and accomplishments of the Council have been discussed in these reports so many times since its crea

tion, nineteen years ago, that it is practically impossible to say anything about it without repeating In these nineteen years, this council, which was ridiculed and damned by all the interests concerned (including those who were foisting all kinds of preparations on the profession and also by medical journals) but which has had the support from the beginning of a large majority of the general practitioners and here and there of a specialist, has brought about a revolution in the field of therapeutics that was thought impossible at the time the movement was started It is only necessary to go abroad—to Great Britain, France or Germany—to observe the conditions that existed in this country twenty years ago Undoubtedly the Council's work has been reflected to a certain extent in all these countries and has had some influence, nevertheless, the present conditions in most other countries are bad As evidence of this, one need only look at the advertising pages of most of the foreign medical periodicals

The old problems concerning the out-and-out nostrum and proprietary mixtures have been solved to all practical intents and purposes Although scarcely a month passes that some one does not attempt to introduce such preparations, the fact is that not a single proprietary preparation of the shotgun mixture type has been successfully introduced to the medical profession of this country since the Council was started The present-day problems are those connected with the use of biologic products as therapeutic agents We need not enlarge on this point, nor on the seriousness of existing conditions

The Council's cooperation is sought by investigators and manufacturers before they attempt to offer any medicinal products to physicians As illustrations, mention might be made of the cooperation offered to Dr Hugh Young and his collaborators in connection with the product flumerin, and of that to Professor Luckhardt and his co-workers in the study of the anesthetic ethylene, as well as to the manufacturers who are preparing to supply this preparation Similarly, the recent favorable reports regarding the bismuth salts in the treatment of syphilis have stimulated manufacturers to take up the production of such preparations, and some of these are consulting with the Council before marketing their products These facts are mentioned to indicate the difference in the work today and when the Council was created It should be emphasized also that the Council is more respected today by the large manufacturing concerns than ever before, concerns that ignored or openly opposed the Council seven or eight years ago are today consulting it before putting out a preparation

Again we would remind you of the fact that the members of this Council are devoting much time and thought to this work purely from altruistic motives and without remuneration

During the year, a new edition of Useful Drugs has been issued It contains all the newer drugs, such as chaulmoogra oil and its ester, insulin, diphtheria toxin-antitoxin, and quinidin sulphate, which seems to have become recognized as an important adjunct in the treatment of certain forms of heart disease This book has been quite influential in eliminating the many useless drugs that encumbered not only our textbooks on therapeutics and materia medica, but also the pharmacopeia

Mention should be made of two reports issued by the Council during the year (1) "Progress and Conservatism in Therapeutics"—an appeal issued by a committee made up of the clinical members of the Council to physicians, and (2) "Intravenous Therapy," which sets forth the limited indication for this all-too-popular form of administering drugs

### THE CHEMICAL LABORATORY

The value to organized medicine of maintaining its own Chemical Laboratory for making careful scientific investigations is becoming more and more evident, particularly when comparisons are made with conditions in other countries During the year the laboratory has published articles on the incompatibility of mercurochrome with alkaloids, on the comprehensive examination of the chloramine antiseptics—and a number of other equally interesting subjects It has continued to aid the Council on Pharmacy and Chemistry in the standardization of new drugs, and also has furnished the Propaganda Department with the analysis of a number of newly introduced "patent medicines" The number of inquiries from physicians on chemical problems has increased greatly and the formulation of replies consumes much of the chemist's time

The laboratory now occupies new quarters planned in detail to meet the needs of modern investigators Among other features, which it did not possess previously, are a chemical store room adequate for future needs, a large steel cabinet for the filing of the specimens which have been brought to its attention, a small but efficiently arranged departmental library and a well organized record room devoted mainly to the files of the Council on Pharmacy and Chemistry The laboratory now is equipped to do practically any type of chemical drug investigation

For some years, the Board has provided funds for the encouragement of therapeutic research This money is appropriated by the Council's Committee on Therapeutic Research to aid in the investigation of therapeutic questions The grants are made to investigators of recognized ability and, in the main, provide funds for the purchase of materials Many of the studies are carried out by, or under the direction of the members of the Council

The following is a list of the investigations conducted under the committee that were published during 1923

1 'Study of a Digitalis Body Which Is Eliminated Rapidly After its Intravenous Injection in the Cat' by Soma Weiss and Robert A Hatcher, *Journal of the American Pharmaceutical Association*, January, 1923

Grant 82 S P Lattman *formerly demonstrator of dermatology*, Western Reserve University (1922 1923 session) $50, to investigate the efficiency of arsphenamin suppositories, especially in congenital syphilis of infants

During 1923 the following grants were made

Grant 86 E A Doisy, professor of biologic chemistry St Louis University School of Medicine $250 to investigate the isolation and study of the properties—chemical and physiologic—of the active constituents of the ovary

Grant 87 C W Greene professor of physiology and pharmacology University of Missouri $250 to continue the work for which Grant 83 ($250) was made in August 1922 viz. to investigate distribution of nitrous oxid and oxygen in the blood during anesthesia

Grant 88 M S Dooley professor of pharmacology Syracuse University College of Medicine $75 to aid in the completion of an investigation, involving a comparison of the results of intramuscular injections of various preparations of digitalis in the frog, with colorimetric assays of the drug

The following requests for grants have been received

H G Barbour, professor of physiology and pharmacology, University of Louisville $150 to cover cost of rats and mice for an investigation of the trypanocidal effect of the aliphatic arsenicals which have just been synthetized by Dr Palmer in Treat Johnson s Laboratory at Yale

James B McNair A B A M, special student University of Chicago $400 to $500, to (1) continue the study of the pathology of *Rhus* dermatitis (2) determine the efficiency of the Sticker method of treatment of *Rhus* dermatitis (3) continue the experimental chemotherapy of *Rhus* dermatitis (The committee is considering issuance of $250 on condition that further expenses will be assumed by the university at which investigation is made or other sources)

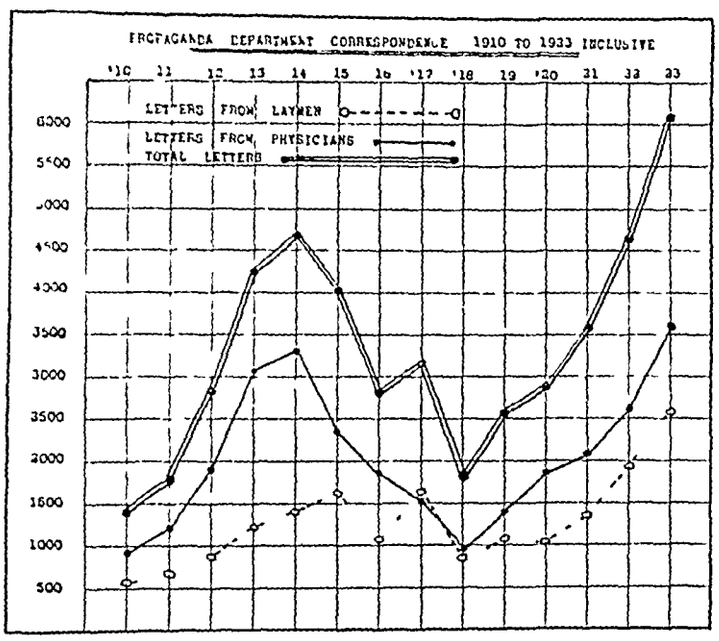
COMMITTEE ON LOCAL ANESTHESIA—Grant 81 is the special appropriation which you made for the continuation of the work of collecting information relating to accidents from the use of local anesthetics This committee has obtained information in regard to accidents from local anesthetics which will be a distinct contribution to our knowledge on the subject and will, without question, be the means of saving lives The committee published a preliminary report in THE JOURNAL, September 15, and the complete report, March 15

### THE PROPAGANDA DEPARTMENT

The activities of the Propaganda Department during the last year have been far greater than ever before The medical profession and the general public have shown more interest in the educational work of this department than has been shown in any other year in the history of the department This was foreshadowed by the number of letters of inquiry we received from laymen during 1922, the number of these was in excess of any previously received In 1923, the number of letters from laymen increased 25 per cent over those received in 1922

The accompanying graph gives an interesting index of the interest exhibited by the medical profession and the public in the Propaganda Department It shows the number of letters of inquiry received and answered by the department from physicians and laymen, respectively, and from both together It covers the years 1910 to 1923, inclusive

It will be seen by the graph that the maximum prewar interest in the Propaganda Department occurred in 1914 With the coming of the World War, the correspondence steadily declined, reaching its minimum in the last year of our participation in the war One interesting point is worth attention It will be seen that, during the year 1917, while the Propaganda Department received a minimum number of letters from physicians, the number of inquiries from laymen increased over that of the preceding year These facts are easily accounted for by the conditions that obtained in the medical profession at that time The physicians of the country had no time to write letters On the other hand, the public's revival of interest was doubtless due to the educational work done by various agencies, including the medical profession, especially in relation to the wastefulness of the nostrum from an economic standpoint and its dangers to the public health




The publication of the Association's lay journal HYGEIA is undoubtedly responsible for at least part of the increase of interest shown by the public in the work of the Propaganda Department Before this journal was founded, practically the only point of contact between the American Medical Association and the public was through the Propaganda Department With the public's growing interest in HYGEIA, the number of inquiries to come into the Propaganda Department for the coming year will doubtless be doubled In addition to HYGEIA, the Association has developed another point of contact through the newspaper extension of its public health work This activity, which is described in detail elsewhere, is bringing in inquiries from those cities in which the newspaper health articles are run

A study of the letters received during the last year by the Propaganda Department shows that there has also been a marked increase in the number of inquiries from certain groups, teachers and professors in schools and colleges, officials of federal and state departments or bureaus, organizations interested in raising the standard of advertising, and especially from those in charge of the health and welfare work in large manufacturing concerns The profession generally does realize the extent to which the Propaganda Department has been able to bring its educational work to the attention of the rising generation There has been an increasing number of school and college textbooks on such subjects as general science, civic science, civic biology, and hygiene, which devote some space to the social and economic evils of nostrums and quackery The Propaganda Department has given freely of its time to the authors of such textbooks, and in some instances, has furnished illustrative material for such books As a result, these books urge the student to write to the Propaganda Department for information and to obtain the published matter put out by the department When the Propaganda Department received from a single school alone nearly 150 letters of inquiry within a short period of the time used in covering this subject in the classes, the value of the educational work that the Propaganda Department is doing will be realized

The two volumes of "Nostrums and Quackery" have a steady sale It is finding its way onto the reception room tables of more and more physicians, and, of even greater importance, it is being added to the reference libraries of schools and colleges The inexpensive pamphlets issued by the Propaganda Department are kept up to date In this connection, it is worth bringing out the fact that practically every layman who writes to the Propaganda Department receives a complimentary copy of one of these pamphlets Every pamphlet issued has the inside front cover devoted to a brief outline of the American Medical Association and its activities As more than a million of these pamphlets have been issued during the last fifteen years, it is evident that the public is gradually learning what the American Medical Association is and what it stands for

A special reprint has been issued during the last year dealing with the Abrams cult Thousands of copies of this reprint have been distributed, and the effects are already apparent The exploitation of Abrams' theories and practice has markedly changed in character Whereas, at first, some of the more credulous but reputable members of the medical profession were disposed to give the Abrams theories serious consideration, the present disciples of this cult are to be found among the less reputable of the "drugless healer" type and the more mercenary members of the medical profession

The Educational Posters prepared by the department are still in great demand They are being used in the various health shows, in state and county fairs, and in other meetings where there is interest shown in matters pertaining to the public health More important still, they are being used to an increasing degree by teachers in the class room There has been an especially large demand for some of the miniature reproductions of these charts to be put directly into the hands of the school children

The stereopticon slides which the department has prepared and arranged in the form of a lecture are in greater demand than ever before Physicians, public health officials, and school and college teachers are using these slides, and the department now has several sets that are in more or less constant circulation

### COMMITTEE ON SCIENTIFIC RESEARCH

The Committee on Scientific Research is composed of Dr Ludwig Hektoen, chairman, Chicago, Dr F F Russell, New York, Dr Herbert C Moffitt, San Francisco, Dr G N Stewart, Cleveland, and Dr Charles H Frazier, Philadelphia At the annual meeting in February, 1923, the Board appropriated $1,500 for the work of the Committee on Scientific Research During the year the following grants were made by the committee

Grant 61 Yandell Henderson, Department of Physiology, Yale University, $119 46 to complete purchase of kymograph, for which Grant 37, of $250, was made in 1922

Grant 62 A C Ivy, Department of Physiology, University of Chicago, $150, for study on secretion of gastric juice

Grant 63 R A Spaeth, School of Hygiene and Public Health Johns Hopkins University, $200, for continuation of work on influence of fatigue on infection, for which Grant 55, of $200, was made in 1922

Grant 64 E R LeCount, Rush Medical College, $200, for study of relations of tuberculosis and mitral disease

Grant 65 L E Hines, St Joseph's Hospital, Chicago, $300, for investigation of intestinal flora in diarrhea

Grant 66 H G Rowell, New Bedford and later of Columbia University, $250, to support study of nutrition of school children

Grant 67 Charles E Simon, School of Hygiene and Public Health, Johns Hopkins University, $100, to aid in work on experimental measles

The status of work under these and previous grants still pending is summarized briefly as follows

Grant 39 E O Jordan, University of Chicago, $1,000 (unpaid balance, $400), critical review of literature on influenza epidemic of 1918 and 1919, with synopsis of results This important work is pra

tically finished, except for one statistical section, and the report will form a monograph of good size

Grant 43 C G Huber University of Michigan, $400 nerve repair This work is finished and the report is ready for publication, possibly in one of the volumes of the history of the World War

Grant 51 R Drury and Thomas Addis Medical School of Stanford University, $500 secretion of urea Work finished and the results published in several articles in the *Journal of Biological Chemistry* **55**, and in an article in the *American Journal of Physiology* **65** Full account has been rendered of the expenditure of the grant money, and application for a new grant is before the committee

Grant 52 W H Welker University of Illinois $400, chemical study of bacterial proteins This work is nearing completion

Grant 53 F P Underhill Yale University, $300 metabolism of inorganic salt Work is still in progress one article has been published in the *Journal of Biological Chemistry* Part of this grant, $370 was expended for platinum crucibles which, according to the rules, remain the property of the American Medical Association

Grant 54 Albert Keidel Johns Hopkins Hospital $350 arachnoid fluid in early syphilis Work is practically completed, and it is planned to present the results before one of the sections next June

Grants 55 and 63 Reynold A Spaeth Johns Hopkins School of Hygiene and Public Health $400 in all fatigue and infection This work is in active progress full account has been rendered of expenditures mostly for animals and for assistance in their care

Grants 57 and 61 Yandell Henderson, Yale University $369 46 in all for kymograph A brass plate has been placed on the instrument stating that it is the property of the American Medical Association Work is in progress on the relative importance of carbon dioxid and oxygen in nervous control of respiration

Grant 58 E B Krumbhaar, Philadelphia General Hospital $225 inguinal granuloma One article on the results of this work has been published in the *Journal of Infectious Diseases*, and further reports will be made later

Grant 59 F W Mulsow, University of Iowa, $225 culture mediums for the gonococcus Results of interest have been obtained and work is to be continued

Grant 60 H A Evans University of California $400, endocrine glands The work by Dr Evans and his associates under previous grants has been continued and a note on the result published in the *Anatomical Record* **25** This newer work deals with the hormones in the anterior lobe of the hypophysis The money has been used to obtain fresh materials from slaughter houses Application for a new grant is at hand

Grant 62 A C Ivy Physiological Laboratory, University of Chicago $150 influence of amino acids and amins on gastric secretion Work has been finished and results are about to be published

Grant 64 E R LeCount Rush Medical College, $200, tuberculosis and mitral disease Work is in progress

Grant 65 L E Hines, St Joseph s Hospital Chicago, $300 intestinal flora in diarrhea Results of work under this grant will be published shortly

Grant 66 H G Rowell New Bedford and Columbia University, $350, nutrition tudies in children Paper giving results of work under this grant has been accepted by the *American Journal of Public Health*

Grant 67 Charles E Simon Johns Hopkins School of Hygiene and Public Health $100 study of experimental measles This grant was made recently

The following applications for grants in aid of research are on file

Linda B Lange Johns Hopkins University $400 for aid in study of effect of exactly controlled diets in experimental tuberculosis in the rat

Hugh Grant Rowell Columbia University $250 to aid in nutrition studies of children based on available records of Horace Mann schools

Herbert N Evans University of California $400 to aid in preparation of a relatively protein free easily absorbable and bacteria free fluid containing the anterior hypophysial hormone or hormones as determined by influence on growth on metabolism and on other endocrines especially on the sex glands and for use in cases of Froehlich s syndrome obscure growth dystrophies and hyposexual conditions

Thomas Addis Stanford University Medical School $300 to aid in work on factors influencing rate of compensatory hypertrophy of remaining kidney after unilateral nephrectomy

Reynold A Spaeth Johns Hopkins University $200 to aid in further study of influence of fatigue on infection Applicant has received two grants of $200 each

Max and G Egnes Seham Minneapolis $1 800 for study of the health of the school child with reference to social economic, physical and psychologic environment

Victor C Jacobson Union University Albany N Y $300 experimental investigation of implantation tumors of the ovary and peritoneum

## BUILDING

The additions to the buildings at headquarters have been satisfactorily completed On the 31st of December 1923, there had been paid $350,935 13 for construction, leaving a balance of approximately $100,000 for future payment The cost of construction of the additions to the buildings has been made without resorting to the sale of the reserve funds of the Association

The Association now possesses a splendid fireproof building forming 100 feet on Dearborn Street and 160 feet on Grand Avenue with six stories and a high basement, of steel and concrete construction, which is substantial and a credit to organized medicine of the United States It will meet for several years to come, the full needs of the Association in carrying on its work

## THE BUREAU OF LEGAL MEDICINE AND LEGISLATION

### NATIONAL PROHIBITION ACT

No developments under the National Prohibition Act have occurred since the meeting of the House of Delegates in June last Regulations then in contemplation by the Commissioner of Internal Revenue have not been issued The appeals of the Association are still pending for the limitation of retail sales of liquor to bottled-in-bond packages and for the removal of the physician's obligation to specify on each prescription for liquor the name of the druggist who is to fill it Cases brought by physicians to determine the constitutionality of the National Prohibition Act so far as it relates to the medicinal use of liquor have not been finally decided, and there has been, therefore, no change in the practice of the Prohibition Unit with respect to the amount of liquor a physician may prescribe and the number of prescriptions he may issue Bills have been introduced into Congress to amend the National Prohibition Act, but have not been acted on

*Wholesale Liquor Permits and Sale of "Patent Medicines"* —The demand made by the Prohibition Unit on a wholesale druggist, reported last year, that he sell "patent medicines" if he would obtain a permit to sell liquor, has not been extended to other druggists, so far as is known It is understood that the making of such a demand never had the sanction of the Prohibition Commissioner

### NARCOTIC LAWS

*Harrison Narcotic Law, Reduction of Tax*—Complaint was made to the committee appointed by the Secretary of the Treasury to draft a revision of federal tax laws, of the injustice of continuing the war tax imposed on physicians under the Harrison Narcotic Act, and an argument was submitted in support of a plea for relief Like action was taken with respect to the Committee on Ways and Means of the House of Representatives, and the case was submitted orally to the chairman of the committee At the close of the year, the matter was pending in committee

*Model State Narcotic Law*—The drafting of a uniform state narcotic law is still under consideration by a committee appointed by the National Conference of Commissioners of Uniform State Laws

### VETERANS' BUREAU AND CHIROPRACTIC

The Veterans' Bureau maintained at the close of the year the same policy with respect to the training of veterans as chiropractors as that stated by the director in his telegram of June 28 last, read at the San Francisco Session, as follows

> Necessary to stand by existing contracts which were previously made with certain chiropractic schools and only those men to be entered who have educational qualifications which would permit them to enter Class A medical college No additional men have been entered in training and no more will be entered when men now in training have completed their courses and present contracts have expired

### SHEPPARD-TOWNER MATERNITY ACT

The U S Supreme Court, June 4, 1923, decided that the pending cases to determine the constitutionality of the Sheppard-Towner Act must be dismissed for want of jurisdiction, and did not consider their merits The constitutionality of the act remains, therefore, undecided

### FEDERAL INCOME TAX

The Bureau of Legal Medicine and Legislation filed a brief with the committee appointed by the Secretary of the Treasury to draft a revision of federal tax laws urging the claims of the medical profession to the right to deduct traveling expenses incident to attendance at meetings of medical societies and to deduct the expenses of postgraduate study, in the computation of federal income taxes The committee having failed to recommend the relief sought a similar brief was filed with the

Committee on Ways and Means, of the House of Representatives. At the close of the year, the matter was pending in that committee.

### DEFENSE OF MALPRACTICE SUITS

The investigation of medical defense and indemnity in connection with malpractice suits, undertaken by the bureau under the resolution adopted by the House of Delegates in 1922, remains where it stood when the report of the bureau was submitted to the Board of Trustees in May last. No developments in this field have come to the notice of the bureau, except that California, the one state that provided its members with indemnity as well as with defense, has discontinued providing indemnity.

### MEDICAL PRACTICE ACTS

The inadequacy of many of our medical practice acts to protect the public against incompetence and quackery has become increasingly apparent. The number and kind of inquiries received from state associations and others for aid in drafting new acts shows a widespread realization of the situation, and the necessity for additional legislation has been emphasized by recent developments in Arizona and Connecticut.

### ANIMAL EXPERIMENTATION

From legal and legislative standpoints there have been no developments in the field of animal experimentation since the last annual report of the bureau was submitted. Other aspects of this matter lie within the purview of the Committee on Protection of Medical Research.

### LYE AND OTHER CAUSTIC SUBSTANCES, LABELING

The bureau has cooperated with the Committee on Lye Legislation, Section on Laryngology, Otology and Rhinology, in drafting a federal law to regulate the labeling of household packages of lye and other caustic substances in interstate and foreign commerce, and a model state bill, to regulate the sale of packages sold locally. As the year ended, efforts were being made to procure the introduction of such legislation into Congress and into the several state legislatures then about to assemble.

### CLINICAL LABORATORIES, ORGANIZATION AND CONTROL

Two resolutions were adopted by the house of Delegates, in June last, relative to the organization and control of clinical laboratories. One resolution directed the Bureau of Legal Medicine and Legislation to confer with representatives of the American Chemical Society and the Society of Bacteriologists and Pathologists regarding the matter. The other authorized the President to appoint a special committee on the subject. Action was under way at the close of the year looking toward the appointment of the committee of the American Medical Association, and the bureau was arranging for the appointment of committees to represent the American Chemical Society and the American Association of Bacteriologists and Pathologists in order that a conference might be held.

### SUTURES AND SURGICAL LIGATURE, REGULATION OF TRAFFIC IN

A bill is pending in the House of Representatives to regulate interstate traffic in sutures and surgical ligature material by a system of licenses and inspection similar to that now in force with respect to viruses, serums, etc.

### UNITED STATES INDIAN OFFICE, MEDICAL SERVICE

The bureau has endeavored to keep in touch with the movement looking toward the improvement of the terms of employment and the working conditions of physicians in the Indian Service. The matter was still in process of development when the year closed.

### PATENTS AND QUACK MEDICINES

The issue by the Patent Office of a patent on a consumption cure led to an inquiry by the bureau to determine the conditions under which such patents are issued. The Patent Office apparently is without adequate means for passing on the merits of applications of this class, and authority to avail itself of the resources of other branches of the government. It seems to be the policy of the Commissioner of Patents to discourage applications for patents on nostrums of this character, but as such discouragement is accompanied by a suggestion that the trademark law is available for the protection of one who would exploit such compounds, the discouragement is of more than questionable value so far as the protection of the public is concerned.

### CLINICAL THERMOMETERS

A movement has been inaugurated by certain manufacturers of clinical thermometers to procure federal legislation requiring adequate testing of all such thermometers before they are put upon the market, and the cooperation of the American Medical Association has been requested. The movement is based apparently on the fact that Massachusetts and Connecticut have enacted laws on the subject, and other states may do likewise, and a diversity of state requirements will work a hardship on the manufacturers. The federal Bureau of Standards has called a conference in Washington, January 30, to consider the matter.

### STATE LEGISLATION

Forty-three state legislatures met in 1923, and the bureau rendered such assistance as was practicable to the legislative committees of the several state associations in their efforts to promote or to combat legislation. It is impossible to record within the compass of an annual report the exact nature or extent of such cooperation, it covers too a wide field and is too spasmodic and diffuse. The extent to which aid can be rendered is not altogether within the control of the bureau, but depends largely on cooperation by the state associations. The bureau had been organized less than a year when the 1923 sessions of the state legislatures convened, and the machinery for coordinating the activities of the bureau with the activities of the several state legislative committees had not been perfected, the results during 1923 were therefore probably all that could be hoped for. The bureau experienced difficulty in keeping in touch with legislative activities in the states. Appeals to legislative committees for copies of bills introduced or advice as to how copies of such bills might be obtained, even coupled with the statement that the bureau stood ready to defray the cost, met with but scant response. Efforts to procure copies of such bills through private agencies failed, in most cases because of the exorbitant charges for the service. Every state legislative committee must procure copies or bills for the use of its members if it is to do effective work, and it is hoped that hereafter such committees will arrange to provide copies for the bureau at the same time. Such a record of projected state legislation as such bills afford, assembled in the bureau, will give timely notice of national movements of medical interest and permit preparation to help or hinder such movements as circumstances dictate. Moreover, the fact that bills of similar or even identical purport are not infrequently introduced into the legislatures of two or more states will make the work of the state association and of the bureau in one state often of value to other state associations, if arrangements can be perfected whereby one can know what the others have done and are doing. To perfect plans for the more efficient coordination of the work of the bureau and the several state associations, it is planned to call a conference of representatives of the state associations to meet in Chicago, in connection with the approaching session of the Association.

### FIELD WORK

During 1923, the executive secretary visited the following places on the business connected with the bureau: New York, New Haven, Conn., Dayton, Ohio, Washington, D. C., San Francisco, and Boston.

### PROTECTION OF MEDICAL RESEARCH

With the abolition of the Council on Health and Public Instruction, it was decided to make the Committee on Protection of Medical Research a standing committee under the direction of the Board of Trustees, and that the committee should be so constituted that the term of one member should expire each year. The committee as constituted, with the term of service is as follows:

| | |
|---|---|
| Dr. Simon Flexner | 1925 |
| Dr. George W. McCoy | 1926 |
| Dr. William Ophuls | 1927 |
| Dr. William Pepper | 1928 |
| Dr. W. B. Cannon, chairman | 1929 |
| Dr. A. J. Carlson | 1930 |

In the protection of medical research, one of the outstanding events of the year is the organization by a group of laymen of the Society of Friends of Medical Progress, Inc Dr Charles W Eliot, President Emeritus of Harvard University, is president of the organization, and Mr Ernest Harold Baynes, the naturalist, is the field secretary The society has issued some instructive educational pamphlets and has authorized the organization of affiliated local, state, county and municipal chapters The protection of medical research by the organization of laymen should receive the recognition and support of members of the medical profession

During the year, the Baylor University College of Medicine, Dallas, Texas, the University of Louisville Medical Department and the medical schools of St Louis have been able to arrange with the local authorities, with the approval of groups of responsible citizens, to obtain impounded dogs for experimental purposes

### Bureau of Health and Public Instruction

At the annual session at San Francisco, 1923, the House of Delegates authorized the Board of Trustees to create a Bureau of Health and Public Instruction at the Association headquarters The bureau has been organized, and Dr John M Dodson of Chicago has been made the executive secretary

The functions of the bureau include the activities of the Association in the attempt to educate the public in the principles of personal hygiene and public health

#### ACTIVITIES OF THE BUREAU

In the attempt to educate the public in matters of personal hygiene and public health, the following agencies have been utilized

1 Hygeia See page 1942

2 The Clip Sheet, in the form of abstracts of the more important articles prepared each month from Hygeia, which is sent to newspapers, farm journals and lay magazines The Clip Sheet is sent also to the secretaries of county medical societies and to other physicians with requests that they undertake to secure the insertion of the material in local newspapers

3 Through the North American Newspaper Alliance The newspapers of this alliance reach 12,000,000 readers each week These newspapers have agreed to publish a health column edited by a member of the editorial board of Hygeia from abstracts of articles printed in Hygeia and in The Journal, including questions and answers on health topics taken from Hygeia.

4 Through the *Woman's World Magazine,* with a circulation of 1,100,000, which has agreed to publish one article each month, which is prepared under the direction of the bureau

5 Through pamphlets and reprints, approximately ninety in number, on health topics covering such subjects as infant welfare, communicable diseases, cancer and conservation of vision

6 Through lectures and talks by physicians and others to lay organizations In this activity of the bureau, attempts are made to cooperate with constituent state and county medical societies and with state, county and city boards of health The bureau attempts to supply material on health topics for members of the Association and others who desire to deliver such addresses This material includes lantern slides, other illustrative material, and information about movie films

7 Through radio broadcasting This avenue of publicity has been utilized through the cooperation of the officials of the Westinghouse Station KYW in Chicago This broadcasting has included readings from advanced sheets of Hygeia and from material furnished by the Propaganda Department The announcer emphasizes the source of the material broadcasted as coming from Hygeia through the American Medical Association This method of educating the public can be extended to include other broadcasting stations in the country

8 Through exhibits, both permanent and temporary, consisting of posters and other material illustrating the causes and methods of prevention of disease and injury, depicting the harmfulness to the public of nostrums and quackery and tables indicating the accomplishments of medical science in the prevention of disease and in more efficient treatment of the sick and injured through higher standards of medical education, improved hospital service and the like

Exhibits of this kind have been made in connection with the Scientific Exhibit of the Association at the annual sessions, and a modified form was made at the meeting of the National Education Association at Oakland, Calif, in July, at the meeting of the American Dental Association at Cleveland, in September, and at the meeting of the American Hospital Association at Milwaukee, in October, 1923 At the request of the bureau the Board has under consideration the question of the establishment of permanent exhibits on health at headquarters, and also in the Smithsonian Institution at Washington and at the National Museum of Safety in New York

9 Through cooperation with other organizations The bureau has assumed the cooperative relationship that was formed in 1911 with the authority of the House of Delegates with the National Education Association The joint committee composed of members of the two organizations has accomplished much in promoting the teaching of public health in schools and colleges Reports of the joint committee have been made in the past to the House by the Council on Health and Public Instruction

#### PERIODIC EXAMINATION OF THE APPARENTLY HEALTHY

At the annual session in 1923, the Council on Health and Public Instruction included in its report a recommendation that the House approve of periodic health examination carried on under the auspices of the state constituent and component county medical societies, and a blank form of record of physical examinations of this character was presented by the Council and approved

As the promotion of periodic health examinations includes the activities of the Secretary of the Association and of the Council on Medical Education and Hospitals, the executive secretary of the bureau, Dr John M Dodson, has cooperated with Dr Olin West and Dr N P Colwell in carrying on this work An article on this subject addressed to the secretaries of the state and county medical societies appeared in the October number of the American Medical Association Bulletin The subject was discussed at the conference of state secretaries in November At this conference Dr E L Bryant, secretary of the Maine Medical Association reported the method of organization adopted in this work by the medical societies, the State Public Health Association and the lay organizations of Maine in the education of the public of the need of periodic health examination, and also reported on the practical measures adopted for carrying on the work The Illinois Society for the Promotion of Periodic Examinations, made up in part of lay societies and in part by members of the medical profession, and also the Brooklyn Tuberculosis Association have promoted periodic health examination in a practical way

The blank form for recording examinations, and copies of the report of the committee made at San Francisco on this subject, have had a large demand from medical societies and lay organizations

The Board expresses the unanimous opinion that one of the most practical measures in the promotion of periodic health examination can be accomplished through county medical societies by encouraging periodic health examinations by family physicians of the members of families dependent on them

### The Scientific Exhibit

The scientific exhibit at the San Francisco Session was notable for the splendid and practical character of several of the individual displays This was manifested by the interest shown by a large number of Fellows who spent much time in study of the exhibits

The motion picture theater has become a splendid factor of the greatest importance in education and training in diagnosis and in the management of disease and injury The large attendance at every lecture indicates the popularity of the moving pictures with the Fellows of the Association

Closer cooperation of the sections of the scientific assembly with the scientific exhibit and the moving picture theater has been brought about by conference with the Council on Scientific Assembly This is shown by the fact that some papers read before the sections which are illustrated by lantern slides, or by movie films, are also presented by the authors in the moving picture theater So, too, are some of the charts prepared by authors of papers read in the sections made a part of the scientific exhibit This cooperation of the sections of the scientific assembly with the scientific exhibit and the motion picture theater is a measure of great practical importance and it is hoped that it will become a fixed policy of the Association

### Field Secretary

Diligent search by the Board and by the Secretary of the Association to secure a qualified Field Secretary has been unsuccessful Physicians believed to be qualified for the position, who have been invited to accept the place, have declined generally for the reason that the present occupation was satisfactory and the question of the transfer of the individual and family to Chicago has been a marked factor in the nonacceptance of the invitation

It is the opinion of the Board and of the Secretary of the Association that it will probably be more feasible and practical to secure a qualified assistant to the Secretary of the Association in lieu of a Field Secretary With this arrangement, the assistant secretary could carry on much of the time-consuming routine work of the Secretary of the Association, and this would permit the Secretary to go into the field to perform the many duties that really belong to his office The Secretary of the Association, Dr Olin West, is splendidly qualified by education, experience and character to go into the field in the performance of many functions which will promote cooperation of the state constituent associations in medical organization looking to the improvement of members of the medical profession in graduate work with increased service to the public and to the economic advantage of physicians With an efficient assistant secretary of the Association, Dr West can perform these field duties The Board recommends that the House of Delegates approve the reorganization of the office of the Secretary of the Association as outlined, in lieu of a field secretary separate from the office of the Secretary of the Association

### Extension Graduate Medical Education

At the San Francisco session, in 1923, the President, Dr de Schweinitz, recommended that the Association should expend greater energy in postgraduate medical work and especially through the state and county medical societies The House of Delegates adopted the recommendation of the Reference Committee on Report of Officers that the Council on Medical Education and Hospitals should take up and promote postgraduate medical education in county and district societies

In March, 1924, the Council on Medical Education and Hospitals, by unanimous action, requested the Board of Trustees to assume jurisdiction of extension graduate medical education, and stated that the Council believed that it should confine its activities to undergraduate medical education, graduate education of physicians in residence at postgraduate schools, and in the standardization of hospitals

The Board is of the opinion that the Association should give practical assistance to members of the medical profession by promoting their professional advancement at or near their homes The Association was founded mainly for the purpose of the improvement of medical education in the United States, and it is recognized that the physician in the field is in need of opportunities for continued self-education

With proper organization, the Association can develop motile or ambulatory clinics consisting of a clinical and laboratory personnel, with laboratory equipment which can be assembled and carried in a motor car and be available for diagnostic and rational therapeutic clinics in county or district headquarters, for a period of two weeks, more or less

Several such ambulatory clinics can be made available and to operate continuously moving from county to county in a state or states The personnel would be augmented for short periods by volunteer clinicians

The practitioners taking advantage of this opportunity could pay a small and reasonable tuition in support of the plan

To insure its success will require sincere and close cooperation by the Association, the state constituent societies and the state councilors in their several districts The clinic would cooperate, too, with extension graduate medical education as carried on by state university and other medical schools *It would require* at Association headquarters a qualified active physician to promote the project by efficient administration

The Board recommends that the House of Delegates authorize the creation of a bureau on extension graduate medical education at headquarters under the jurisdiction of the Board of Trustees and the Secretary of the Association

### Resolutions

At the San Francisco session in 1923, the State Medical Society of New Jersey, through its president, Dr Wells P Eagleton, offered a resolution which involved amendments to the Constitution and By-Laws which would disassociate the editorship and general management of the Association, and that an ad interim meeting of the House of Delegates should be held annually at headquarters These resolutions were referred by the House to the Board of Trustees

At the autumn meeting of the Board, Nov 15-17, 1923, after due consideration, the Board unanimously passed resolutions as follows

1 There is no reason at the present time for any change in the present policy concerning the editorship and general management of the Association or in the Constitution

2 The Constitution and By Laws as now constituted provide for an ad interim meeting of the House of Delegates when such a meeting is deemed necessary

At the autumn meeting the Board also considered the resolution presented to the House of Delegates by Dr Leigh of Virginia and which was referred to the Board by the House

*Resolved* That the Council on Pharmacy and Chemistry of the American Medical Association be instructed to employ a trained publicity man preferably a writer with an established reputation, whose duty it should be to get into the lay press, daily papers, rural publications, magazines, etc, articles covering fully and accurately all of the activities of organized medicine

The Board gave profound consideration to and discussed the subject thoroughly It was brought out that the Council on Pharmacy and Chemistry cooperated with the Propaganda Department in matters of publicity and that, through THE JOURNAL, volumes on nostrums, quackery and the like, pamphlets and other printed matter referring to nostrums, the cults and the like were widely disseminated to the medical profession and also to the public through clubs, schools, colleges and universities Therefore, the Board decided that it would be unwise to alter the organized efficient plans of publicity now utilized by the Council

The Board also considered a second resolution presented by Dr Leigh, viz

*Resolved,* That the President and Secretary of the American Medical Association be instructed to confer with the medical directors of the larger life insurance companies which do preventive and educational health work with the object of securing their cooperation in educating the public about quacks and nostrums

On recommendation of the Reference Committee on Medical Education, the House referred the resolution to the Board of Trustees

Since this resolution involved instruction of the public in public health, the Board referred it to the Bureau on Health and Public Instruction for consideration and to act in accordance with its judgment in the matter

The several resolutions adopted by the House, and referred to the Board of Trustees for action, have been attended to Among the subjects of these resolutions may be mentioned the American Red Cross, the Veterans' Bureau, aid for Russian physicians, and the engrossing of the resolutions passed by the House last year in honor of Dr Simmons

During the past year, the director of the Veterans' Bureau has requested cooperation of the American Medical Association in the modification of the ratings for compensation of disabled veterans, and also, at another time, for the nomination of representatives of medicine and its specialties, of surgery and its specialties, of qualified men to act in an advisory capacity to the director of the Veterans' Bureau on questions of policy relating to medical problems which occur in the bureau

The Board has complied with these requests of the director of the Bureau, and through the Secretary of the Board has furnished him with lists of available, qualified physicians and surgeons to assist in the modification of the ratings for compensation of disabled men and also to serve on the advisory committee

Respectfully submitted

WENDELL C PHILLIPS, Chairman,
FRANK BILLINGS, Secretary,
THOMAS McDAVITT,
A R MITCHELL,
D CHESTER BROWN,
OSCAR DOWLING,
CHARLES W RICHARDSON,
WALTER T WILLIAMSON,
J H J UPHAM

## ADDENDA TO TRUSTEES' REPORT

### SUBSCRIPTION DEPARTMENT

TABLE 1.—The following table indicates the number of copies of THE JOURNAL printed each week, the total number for the year, and the weekly average

| | | | | | |
|---|---|---|---|---|---|
| January 6 | 80 640 | | July 7 | 80 105 | |
| January 13 | 80 374 | | July 14 | 80 275 | |
| January 20 | 80 274 | | July 21 | 80 064 | |
| January 27 | 80 746 | | July 28 | 80 242 | |
| | | 322 034 | | | 320 686 |
| February 3 | 80 415 | | August 4 | 80 073 | |
| February 10 | 80 363 | | August 11 | 80 181 | |
| February 17 | 80 057 | | August 18 | 80 283 | |
| February 24 | 80 412 | | August 25 | 80 347 | |
| | | 321 247 | | | 320 884 |
| March 3 | 81 069 | | September 1 | 80 608 | |
| March 10 | 80 913 | | September 8 | 80 349 | |
| March 17 | 80 585 | | September 15 | 80 607 | |
| March 24 | 80 530 | | September 22 | 80 394 | |
| March 31 | 80 405 | | September 29 | 80 270 | |
| | | 403 502 | | | 402 228 |
| April 7 | 80 175 | | October 6 | 80 283 | |
| April 14 | 80 697 | | October 13 | 80 307 | |
| April 21 | 80 110 | | October 20 | 80 349 | |
| April 28 | 80 167 | | October 27 | 80 113 | |
| | | 321,149 | | | 321 052 |
| May 5 | 80 319 | | November 3 | 80 485 | |
| May 12 | 80 632 | | November 10 | 80 361 | |
| May 19 | 80 493 | | November 17 | 80 142 | |
| May 26 | 90 225 | | November 24 | 80 784 | |
| | | 331 669 | | | 321 772 |
| June 2 | 80 031 | | December 1 | 88 536 | |
| June 9 | 80 351 | | December 8 | 90 515 | |
| June 16 | 80 890 | | December 15 | 90 898 | |
| June 23 | 80 907 | | December 22 | 90 265 | |
| June 30 | 80 013 | | December 29 | 84 683 | |
| | | 402 192 | | | 444 917 |
| | | 2 101 793 | | | 2 131 539 |
| Total | | | | | 4 233 332 |
| Weekly average | | | | | 81 410 |

This shows that 4 233 332 copies were printed during 1923—an increase of 128 488 over the number printed in 1922

### PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL

TABLE 2.—The number of physicians in the United States receiving THE JOURNAL and the approximate percentage in each state is indicated in the table The copies to the United States Army, U S Navy, U S Public Health Service, etc, are not included

| State | Number Receiving JOURNAL | Physicians In State 8th A M Directory | Approximate Percentage 8th A M Directory |
|---|---|---|---|
| Alabama | 785 | 2,313 | 34 |
| Arizona | 233 | 372 | 63 |
| Arkansas | 673 | 2 303 | 29 |
| California | 4 799 | 7 549 | 64 |
| Colorado | 1 025 | 1 882 | 54 |
| Connecticut | 1 211 | 1 727 | 70 |
| Delaware | 132 | 265 | 50 |
| District of Columbia | 678 | 1 924 | 35 |
| Florida | 599 | 1,348 | 44 |
| Georgia | 1 288 | 3 274 | 39 |
| Idaho | 246 | 452 | 54 |
| Illinois | 6 984 | 10 716 | 65 |
| Indiana | 2,041 | 4 353 | 47 |
| Iowa | 1 918 | 3 490 | 55 |
| Kansas | 1 286 | 2 492 | 52 |
| Kentucky | 1 068 | 3 155 | 34 |
| Louisiana | 923 | 2 058 | 45 |
| Maine | 495 | 1 067 | 46 |
| Maryland | 1,296 | 2 349 | 55 |
| Massachusetts | 3 775 | 5 977 | 63 |
| Michigan | 2 571 | 4 653 | 55 |
| Minnesota | 1 795 | 2 774 | 65 |
| Mississippi | 474 | 1 792 | 26 |
| Missouri | 2 777 | 5 827 | 48 |
| Montana | 307 | 568 | 52 |
| Nebraska | 1 093 | 1 913 | 57 |
| Nevada | 88 | 140 | 63 |
| New Hampshire | 335 | 615 | 54 |
| New Jersey | 2 079 | 3 362 | 62 |
| New Mexico | 210 | 399 | 53 |
| New York | 9 507 | 16 857 | 56 |
| North Carolina | 973 | 2,226 | 44 |
| North Dakota | 367 | 517 | 71 |
| Ohio | 4 045 | 8 086 | 50 |
| Oklahoma | 981 | 2 600 | 38 |
| Oregon | 615 | 1 158 | 53 |
| Pennsylvania | 6 685 | 11 241 | 59 |
| Rhode Island | 427 | 754 | 57 |
| South Carolina | 730 | 1 368 | 53 |
| South Dakota | 368 | 630 | 58 |
| Tennessee | 1 014 | 3 228 | 31 |
| Texas | 2 312 | 6 094 | 38 |
| Utah | 323 | 497 | 65 |
| Vermont | 287 | 556 | 52 |
| Virginia | 1 134 | 2 503 | 45 |
| Washington | 1 010 | 1 756 | 57 |
| West Virginia | 887 | 1 751 | 50 |
| Wisconsin | 1 800 | 2 772 | 65 |
| Wyoming | 164 | 263 | 62 |

TABLE 3.—The number of Fellows and of subscribers, but not including advertisers, exchanges, libraries etc, on THE JOURNAL mailing list each year beginning with 1900 is included in the table

| Year | Fellows | Subscribers |
|---|---|---|
| January 1 1900 | 8 445 | 4 633 |
| January 1 1901 | 9 841 | 8 339 |
| January 1 1902 | 11 107 | 10 795 |
| January 1 1903 | 12 553 | 12 378 |
| January 1 1904 | 13 899 | 14 674 |
| January 1 1905 | 17 570 | 15 698 |
| January 1 1906 | 20 826 | 17 669 |
| January 1 1907 | 26 255 | 20 166 |
| January 1 1908 | 29 382 | 20 880 |
| January 1 1909 | 31 999 | 18 983 |
| January 1 1910 | 33 032 | 19 832 |
| January 1 1911 | 33 540 | 20 504 |
| January 1 1912 | 33 250 | 21 620 |
| January 1 1913 | 36 082 | 19 863 |
| January 1 1914 | 39 518 | 19 751 |
| January 1 1915 | 41 254 | 20 430 |
| January 1 1916 | 41 938 | 22 921 |
| January 1 1917 | 42 744 | 22 156 |
| January 1 1918 | 43 420 | 23 117 |
| January 1 1919 | 42 366 | 24 687 |
| January 1 1920 | 44 340 | 30 032 |
| January 1 1921 | 46 669 | 31 347 |
| January 1 1922 | 48 937 | 30 175 |
| January 1 1923 | 49 651 | 29 201 |
| January 1 1924 | 50 175 | 30 122 |

The total number of transfers from the subscription to the Fellowship list in 1923 was 2 626 In spite of this, there was a gain of 921 in the former

## TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ending December 31, 1923

### ASSOCIATION RESERVE FUND

| | | |
|---|---|---|
| Reserve Fund as at December 31, 1922 | | $322,186 08 |
| Transfer from General Office | | 60,000 00 |
| Interest—Bonds | $13,011 67 | |
| Interest—Uninvested Balance | 565 53 | $13,577 20 |
| Reserve Fund as at December 31, 1923 | | $395,763 28 |

### DAVIS MEMORIAL FUND

| | | |
|---|---|---|
| Bonds (at cost) as at December 31, 1922 | | $ 3,708 25 |
| Bank Balance December 31, 1922 | $ 491 87 | |
| 1923 Interest on Bonds | 170 00 | |
| 1923 Interest on Bank Balance | $ 11 94 | $679 81 |
| Total Fund as at December 31, 1923 | | $ 4,388 06 |

## AUDITOR'S REPORT

CHICAGO, January 9, 1924

*To the Board of Trustees,*
*American Medical Association, Chicago, Illinois*

*Dear Sirs*

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended December 31, 1923, and have prepared therefrom and append hereto the statements undermentioned

Exhibit "A"—Balance Sheet as at December 31, 1923
Exhibit "B"—Income Account for the year ended December 31, 1923
Schedule "1"—Journal Operating Expenses—Year 1923
Schedule "2"—Association and Miscellaneous Expenses—Year 1923

The Balance Sheet submitted properly presents, in our opinion, the financial position of the Association as at December 31, 1923; and the Income Account, the results of the operations of the Association for the year then ended, subject to the explanation that no provision has been made for accrued interest, taxes, and "Journal" subscriptions paid in advance and that no valuation has been placed on subscriptions and memberships due and unpaid

We verified the cash in bank by certificates received from the various depositories and that on hand by actual count The receipt of the Continental and Commercial National Bank, covering $101,875 00 of U S Government Securities, held for safekeeping, was produced to us

We also inspected the securities for the investment of the Association Reserve Fund and found them in order, these securities are stated at cost, without regard to the market value prevailing at December 31, 1923

The Net Worth of the Association has increased since December 31, 1922, $153,736 58, representing the net income for the year 1923, $140,159 38, and the interest earned for the period on the Association Reserve Fund, $13,577 20 [illegible] is spread over the assets and liabilities as

| | | |
|---|---|---|
| [illegible] | | $191,491 73 |
| [illegible] | | 73,577 20 |
| | | $265,068 93 |
| [illegible] | $37,169 77 | |
| | 35 485 21 | |
| | 10,274 37 | |
| [illegible] | 03 00 | $111,332 35 |
| [illegible] | | $153,736 58 |

[illegible] test [illegible] expenditures have [illegible] and accurate

ical [illegible]
should continue
tion, graduate educa
graduate schools, and in the

The Board is of the opinion that [illegible] give practical assistance to members of the [illegible] sion by promoting their professional advancement [illegible] their homes The Association was founded mainly for the purpose of the improvement of medical education in the United States, and it is recognized that the physician in the field is in need of opportunities for continued self-education

With proper organization, the Association can develop motile or ambulatory clinics consisting of a clinical and

| | | | |
|---|---|---|---|
| Reserve Fund Investment | | | |
| Government and Railroad Bonds—at Cost | | $387,374 05 | |
| Funds in Bank awaiting Investment | | 8,389 23 | $395,763 28 |
| Current Assets | | | |
| Cash in Bank and on Hand | | $ 88,232 13 | |
| U S Government Securities—at Cost | | 101,875 00 | |
| Notes Receivable | | 3,736 40 | |
| Accounts Receivable | | | |
| Advertising | $70,805 00 | | |
| Co operative Medical Advertising Bureau | 10,920 77 | | |
| Reprints | 3,704 50 | | |
| Directory | 15,840 65 | | |
| Miscellaneous | 10,505 05 | $111,775 97 | |
| Inventories of Materials, Supplies and Work in Progress | | $ 69,758 12 | $375,377 69 |
| Prepaid Expenses | | | |
| Insurance Premiums | | $ 1,367 81 | |
| Session 1924 Expense | | 39 48 | |
| Hygeia | | 15,523 64 | $16,930 93 |
| Total | | | $1 455 825 19 |
| LIABILITIES | | | |
| Accounts Payable | | | |
| Co operative Medical Advertising Bureau | | | $ 8 871 94 |
| Miscellaneous | | | 38 709 23 |
| | | | $ 47,581 17 |
| Advance Payments on Publications | | | 46,496 75 |
| Net Worth | | | |
| Association Reserve Fund (Invested as above) | | | |
| Amount thereof as at December 31, 1922 | | $322 186 08 | |
| Transferred, Sept, 1923, from Surplus Fund | | 60,000 00 | |
| Interest received on Bonds owned and on Uninvested Cash—Year 1923 | | 13,577 20 | |
| | | $395,763 28 | |
| Surplus Fund | | | |
| Amount thereof as at December 31, 1922 | $885,824 61 | | |
| Transferred, September, 1923, to Association Reserve Fund | 60,000 00 | | |
| | $825,824 61 | | |
| Net Income for the year ended December 31, 1923 | 140,159 38 | $965,983 99 | |
| Net Worth as at December 31, 1923 | | | $1,361,747 27 |
| Total | | | $1,455 825 19 |

## EXHIBIT "B"

### INCOME ACCOUNT

FOR THE YEAR ENDED DECEMBER 31, 1923

| | | |
|---|---|---|
| JOURNAL | | |
| Gross Earnings | | |
| Fellowship Dues and Subscriptions | | $ 468,097 98 |
| Advertising | | 617,825 04 |
| Jobbing | | 10,070 35 |
| Reprints | | 7,302 33 |
| Books | | 7,444 52 |
| Insignia | | 7,319 76 |
| Miscellaneous Sales | | 13 698 32 |
| Interest | | 12,820 89 |
| Gross Earnings from Journal | | $1,144,579 19 |
| Operating Expenses—Schedule "1" | | 842,895 86 |
| Net Earnings from Journal | | $ 301,683 33 |
| Miscellaneous Income | | |
| Rents | $ 1,500,00 | |
| Sundry Publications | 22,752 72 | |
| Co operative Medical Advertising Bureau | 2,700 96 | $26,953 68 |
| Gross Income | | $ 328,637 01 |
| Association Expenses—Schedule "2" | $105,466 38 | |
| Miscellaneous Expenses—Schedule "2" | 83,011 25 | $188,477 63 |
| Net Operating Income | | $ 140,159 38 |
| Income from Investment of Reserve Fund | | 13,577 20 |
| Total Income | | $ 153,736 58 |

### SCHEDULE "1"

### OPERATING EXPENSES

DECEMBER 31, 1923

| | |
|---|---|
| Wages | $375,180 18 |
| Editorial | 11,767 02 |
| Paper | 258 658 57 |
| Paper [illegible] | 12,636 05 |
| [illegible] | 20,096 92 |
| [illegible] | 720 50 |
| [illegible] | 7 065 30 |
| [illegible] | 22,154 03 |
| [illegible] | 40,127 91 |
| [illegible] | 5,860 00 |
| [illegible] | 1,612 99 |
| [illegible] | 16,089 26 |
| [illegible] | 3 930 05 |
| [illegible] | 2,374 [illegible] |
| [illegible] | 1,8 4 69 |
| [illegible] | 2,7 [illegible] |
| [illegible] | [illegible] |

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|---|---|---|---|
| Fuel | | | 7,854 36 |
| Factory Supplies | | | 9 343 15 |
| Repairs and Renewals—Machinery | | | 5 135 71 |
| Bad Debts—Net | | | 467 87 |
| Miscellaneous Operating Expenses | | | 17,127 33 |
| | | | $832,110 95 |
| Depreciation on Property and Equipment | | | |
| Machinery | 10% | $6 305 49 | |
| Furniture and Equipment | 10% | 2,581 12 | |
| Factory Equipment | 10% | 546 81 | |
| Type | 10% | 310 56 | |
| Metal | 20% | 1 040 93 | $10,784 91 |
| Total Journal Operating Expenses | | | $842,895 86 |

SCHEDULE 2'

ASSOCIATION AND MISCELLANEOUS EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1923

| | |
|---|---|
| Association Expenses | |
| Association | $ 34 656 36 |
| Health and Public Instruction | 7,491 38 |
| Pharmacy and Chemistry and Chemical Laboratory | 21 440 26 |
| Medical Education and Hospitals | 25,821 60 |
| Organization and Field Secretary | 2 523 20 |
| Therapeutic Research | 1 006 92 |
| Legal Medicine and Legislation | 12,214 63 |
| Session 1923 | 59 11 |
| Laboratory Depreciation—10% | 252 92 |
| Total Association Expenses | $105,466 38 |
| Miscellaneous Expenses | |
| Insurance and Taxes | $ 11 921 88 |
| Legal and Investigation | 2,550 00 |
| Biographical Expense | 11,536 83 |
| Sundry Publications | 54 634 82 |
| Building Expense | 2 367 72 |
| Total Miscellaneous Expenses | $ 83 011 25 |

## REPORT OF THE JUDICIAL COUNCIL

Dr M L Harris, Illinois, Chairman, presented the report of the Judicial Council, which was referred to the Reference Committee on Report of Officers

*To the Members of the House of Delegates of the American Medical Association*

The Judicial Council has been called on to consider a greater mass of material during the year just passed than in any other preceding year As heretofore, much of what has been brought to the attention of the Council has been that which should have been addressed to officers of county medical societies or of state associations, and has been referred by the Council to those officers As was stated in its report last year, the Judicial Council has no disposition to refuse to accept fully any responsibility that may rightfully be imposed on it under the law of the Association, nor does the Council wish to usurp or to appear to interfere, even remotely, with the privileges and duties that are legally and rightfully imposed on the censors and councilors of component and constituent societies These agencies are charged with specific duties, and it is altogether in keeping with the democratic spirit and purpose of our scheme of organization that they should consider first and adjust all questions of conduct, organization and discipline that primarily concern their individual members or their own units of organization It is important that they should be called on to function actively whenever proper occasion arises, because thus will the privileges and rights of members and societies as such be more fully safeguarded, and thus will the aims and purposes of organization be more surely accomplished The observance of established rules and orderly procedure can but lead to increased efficiency The By-Laws of this Association and its constituent and component units are specific enough and, at the same time, broad enough to make adequate provision for the fair consideration and decision of all questions that need to be adjudicated These laws make the board of censors of the county society the court of first resort, and provide for orderly appeal to the council of the state association as a superior court The jurisdiction of the Judicial Council is very clearly defined in the By-Laws of this Association, and is so constituted as to preserve to the state and county societies the right to deal with those matters which are their peculiar concern It is, however, the earnest desire of the Judicial Council to be helpful wherever and whenever it can, and to that end the Council renews its pledge to the members and societies of the Association to render any service within its power for the promotion of the cause of scientific medicine as that cause may be advanced through medical organization

### PETITION OF A COUNTY SOCIETY REGARDING CHARGES PREFERRED AGAINST AN ASSOCIATE FELLOW

A member of a constituent state association and Fellow of the American Medical Association preferred charges of unethical conduct against an Associate Fellow living in the same city, who was not a member of any county or state medical society, but a dentist These charges were presented to the county society of which the physician making the charges was a member Officers and members of that society addressed a petition to the state medical association concerned and to the American Medical Association asking that the Associate Fellow against whom the charges were made be removed from Fellowship The Associate Fellow preferred counter charges against the complaining physician There was also presented to the Council a statement favorable to the Associate Fellow, signed by as many members of the county society involved as had signed the petition above referred to The petition of the county society, communications from officers of the state association concerned, communications from complainant and counter-complainant, affidavits, copies of court records and oral testimony from the Associate Fellow against whom charges had been preferred were all very carefully considered by the Council at two separate meetings The complaining physician did not appear before the Council After thorough consideration of all evidence presented, the Council was of the opinion that both the complaining Fellow and the Associate Fellow against whom charges were made were censurable, and so informed the individuals and the medical organizations concerned

### DIVISION OF FEES

Whispered reports and even open statements to the effect that the practice of fee splitting prevails in many places have been heard with increasing frequency during the last year or two Since the last meeting of this House of Delegates, at least two signed communications regarding this subject have come to the Council which deserve special mention Each of these makes the point that it is or may be possible that county societies having jurisdiction cannot take action to correct the evil of fee splitting because enough of the members of these societies indulge in the practice to prevent such action One of the communications referred to came from a Western city, the other from a Northern state It is contended that, because of the impossibility of securing corrective action by county societies, the American Medical Association should act to investigate existing conditions, expose whatever is found that is reprehensible, and create a situation whereby members of county societies who engage in the practice of dividing fees would be forced out of membership

The Judicial Council does not know that the practice of fee splitting prevails generally to anything like the extent indicated by the letters and rumors that have come to the attention of the Council and which purport to describe the situation in the communities from which these came Moreover, the Council earnestly hopes that the conditions described as existing in those communities have been exaggerated and overstated As has been done in former reports however, the Council wishes to record its condemnation of this pernicious practice wherever it may be found, and to urge component societies and constituent associations to purge their membership of any who wilfully refuse to desist from such practice, the continuance of which can only bring dishonor and reproach on the medical profession So far as its power extends and its jurisdiction reaches, the Judicial Council will undertake to deal with any specific cases which may be presented to it and to render judgment in any cases in which necessary evidence for conviction is put before the Council It is not felt, however, that the American Medical Association, through any of its established agencies, should go into territory within the primary jurisdiction of any of its units of organization for the purpose of discovering facts that could be obtained only on the evidence of members of component societies, which are specifically charged with

the duty of maintaining the honor of the profession and which have duly constituted machinery for bringing transgressors to account

The Council suggests that, when a county society is found to enroll so many fee splitting, or otherwise unethical, members as to render it impossible for that society to enforce the ethical standards of the medical profession, in accordance with the laws of our medical organizations it then becomes the duty of the state councilor, whose district embraces such society, to bring the situation before his state board of councilors and have the charter of such recalcitrant society annulled and in its place to have reissued a new county society charter, in the name of well known ethical physicians of such county, in order that a society with ethical standards may be organized and maintained

### PERIODIC HEALTH EXAMINATIONS BY LAY ORGANIZATIONS

The Council is making a study of the operation and scope of lay organizations engaged in life extension work, so called, and will probably present a statement dealing with this subject to the House of Delegates at this or a succeeding session

### DEFINING "SECTARIAN"

In compliance with several requests received, the Judicial Council has formulated and adopted, for purposes that may be served, the following definition of the term "sectarian"

A "sectarian," as applied to medicine, is one who in his practice follows a dogma, tenet or principle based on the authority of its promulgator to the exclusion of demonstration and experience

### DEFINING "PHYSICIAN"

Requests have also been received for the definition of "physician," and the following is submitted for consideration and for use in such purposes as may be served by such a definition

A physician is one who has acquired a contemporary education in the fundamental and special sciences, comprehended in the general term "medicine" used in its unrestricted sense, and who has received the degree of Doctor of Medicine from a medical school of recognized standing

### THE RELATIONSHIPS OF PHYSICIANS AND CULTISTS

Several communications addressed to the Council have raised various questions as to the relationships of physicians with cultists—the attitude that should be assumed by the physician called into a case under treatment by a cult practitioner, whether a pathologist in a hospital under the direction of regular physicians should refuse to examine material submitted by a cultist, and other questions of more or less similar nature In the opinion of the Judicial Council, these are questions that are not sharply to be defined by words In his relations with irregular practitioners, the physician should be bound by the Principles of Medical Ethics, Chapter II, Article I, Section 1, while bearing in mind the considerations set forth in Sections 6 and 7 of the same chapter and article, and with due consideration for the observations made in the Conclusion on Page 23 of the Principles of Medical Ethics of the American Medical Association In such matters the policy must be governed largely by the circumstances governing the individual case, by the conditions existing in the special community, and by the realization that the first duties of the physician are the care of the sick and, at the same time, the upholding of the dignity and honor of the profession

### DISPENSING OF GLASSES BY PHYSICIANS

The Council has been asked for an official expression relative to the practice of physicians dispensing eye glasses who send prescriptions or prescriptions accompanied by frames for the glasses to manufacturers or wholesalers, and have the complete glasses returned to them for delivery to patients, who are charged retail prices These physicians retain the amount of the difference between the wholesale and the retail cost of the completed glasses In order that the Council may have proper guidance through professional advice, this matter has been referred to the Section on Ophthalmology, with a request that the section offer a recommendation on the subject

### MEMBERSHIP CONTINGENT ON PAYMENT OF LARGE ASSESSMENTS

A county medical society, with headquarters in a large city, is engaged in the very worthy enterprise of securing means for building a permanent home for the society The necessary funds are to be obtained through assessment of $100 on each member, and, if the Council is correctly informed through letters from former members and would-be members of the society, membership is made conditional on the payment of the assessment Complaining physicians claim that the assessment levied is unduly large, object or refuse to pay, and maintain that they are unjustly kept out of affiliation with their state medical association and the American Medical Association Those complaining do not reside in the city in which the society home is to be built, but in smaller communities in the county After receipt of several letters from physicians residing in the county concerned, the Judicial Council referred the matter to the state medical association having jurisdiction The council of that state association has considered the mattter and advised the Judicial Council that it is one for local determination

The Judicial Council, as has been stated in this and previous reports, has no disposition to interfere with state, district or county societies in the management of their affairs There can be no objection to the making of any kind of assessment desired that will stand, provided it does not exclude worthy physicians from membership, but to make membership in district, state and national societies contingent on the payment of a large assessment to the county society is fundamentally wrong

### AMENDMENT OF BY-LAWS SUGGESTED

Provision is made in Section 2 of Chapter XI of the By-Laws of the American Medical Association for continuance in the relation of Fellows by commissioned officers of the Army, the Navy and the United States Public Health Service who have been retired "on account of age or physical disability" By Act of Congress, certain commissioned officers have been retired or may be retired after long and honorable terms in these services of the country Only a few such officers have been so retired up to the present time, among them some of the most honored men who have been identified with the military, naval and public health arms of the government It is recommended that the By-Laws be amended by inserting at the end of the sixth line of Section 3, Chapter XI, the words "or, after long and honorable service, under the provisions of an Act of Congress"

M L HARRIS, Chairman,
W S THAYER,
J C CHASE,
J N HALL,
F W CREGOR,
OLIN WEST, Secretary

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## REPORT OF THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

Dr Arthur Dean Bevan, Illinois, Chairman, presented the report of the Council on Medical Education and Hospitals, which was referred to the Reference Committee on Reports of Officers

*To the Members of the House of Delegates of the American Medical Association*

The present report of the Council makes reference to (1) the present status of medical education, (2) present supply of physicians in the United States, (3) graduate medical education, (4) medical licensure, and (5) hospital work of the Council

### 1 PRESENT STATUS OF MEDICAL EDUCATION

The number of medical schools in the United States now represents a normal supply, and is sufficient to meet easily the demand for physicians in the United States As shown in Chart 1, the total number since 1904 has been reduced from 160 to eighty, the reduction being brought about mostly by the merging of two or more colleges in each of a store

of cities to one invariably stronger and better equipped institution

Although the total number has been reduced, particular attention is called to the fact that the number of higher standard and better equipped institutions has been increased from two, or 1 2 per cent of all colleges, in 1904 to seventy-four, or 92 4 per cent of the medical schools now existing Furthermore, twenty years ago the majority of medical schools were independent institutions, many of which were stock corporations conducted for profit Now sixty-three, or 80 per cent, are integral parts of universities and under the direct control of the university so far as instruction and maintenance are concerned The reduction in the number of medical schools again has been more than offset by the greatly increased number or size of the buildings occupied by each institution, whereby each medical school can not only provide a more complete medical training but also care for larger numbers of students on the average

TABLE 1.—*Enrolments of Medical Students for Eight Years, Showing Variation in Numbers by Classes*

| College Session | Freshmen | Sophomores | Juniors | Seniors | Totals |
|---|---|---|---|---|---|
| 1914-15 | 3 373 | 3,919 | 3,075 | 3 804 | 14,891 |
| 1915-16 | 3 482 | 3 094 | 3 559 | 3,727 | 14 022 |
| 1916-17 | 4 107 | 3 117 | 2,866 | 3,674 | 13 764 |
| 1917-18 | 4 283 | 3 521 | 2 893 | 2 933 | 13 630 |
| 1918-19 | 3 104 | 3 587 | 3 272 | 2,967 | 12 930 |
| 1919-20 | 4,234 | 2 837 | 3 464 | 3 263 | 13 798 |
| 1920-21 | 4 825 | 3 588 | 2 637 | 3 416 | 14 466 |
| 1921-22 | 5 412 | 4 219 | 3 355 | 2 649 | 15 635 |
| 1922-23 | 5,162 | 4 615 | 3 861 | 3 322 | 16,960 |
| 1923-24* | 5 197 | 4 449 | 4 286 | 3 876 | 17 808 |

* Estimate
The lowest ebb in the enrolments in the respective classes following the adoption of higher entrance requirements is shown by the figures underscored The dotted lines are under figures showing a temporary diminution due to the World War

### STUDENT ENROLMENT

The number of students enrolled in medical schools was indeed, gradually reduced from 28,142 in 1904 to 12,930 in 1919 Since 1919, however, as shown in Table 1, there has been a rapid rebound, the numbers of students enrolled having been increased by approximately 1,000 each year During the present session (1923-1924) 17 808 students are enrolled—the largest number since 1912, and still the medical schools are not filled to their maximum capacity—reports to the contrary notwithstanding In 1912, the 118 medical schools then existing enrolled only 156 students on the average, whereas the eighty medical schools now existing have enrolled an average of 223 students each

### HIGHER GRADE STUDENTS

Although, as already shown, there was a temporary reduction in the numbers of medical students between 1904 and 1919, there has been a constant increase in the numbers of better qualified medical students since 1904 At that time of the 28,142 medical students enrolled in medical schools only 640, 2 3 per cent, were in institutions requiring two or more years of college work for admission, now, of the 17,808 students enrolled in all colleges, 17,330, or 97 3 per cent, are enrolled in medical schools having the higher entrance standard

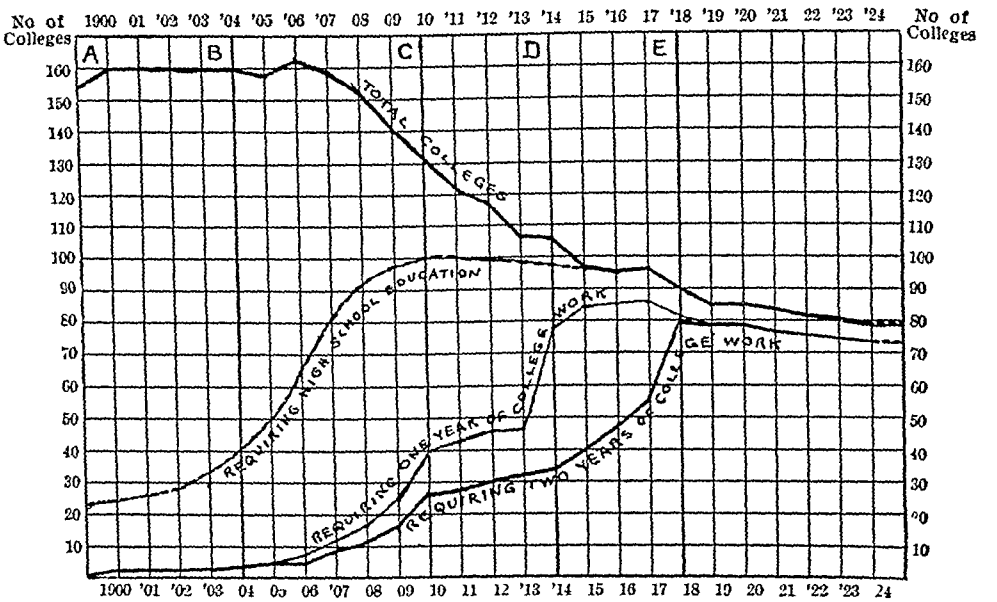
### GRADUATES IN MEDICINE

As shown in Chart 2, the number of graduates in medical schools was temporarily reduced from 5,747 in 1904 to 2,670 in 1918 Since 1918, the total was again increased to 3,192 in 1921 and, except for the war class which graduated in 1922, the increase has been continued Based on the present enrolments in medical schools, as shown in Chart 2, there will be a rapid increase during the next three years, and the number in 1927 will be approximately 4,750

### BETTER QUALIFIED GRADUATES

Although there was a temporary decrease in the total numbers of students graduating from medical schools, the numbers graduating from the higher grade medical schools has been steadily increased from 267, or only 5 per cent of all graduates in 1906 to 2,964, or 95 per cent of all graduates in 1923, and in all classes hereafter, as shown in Chart 2, the same high proportion will have been from these better qualified graduates Here, again, medical schools are now capable of turning out physicians in larger numbers, as well as of those who are in every way better qualified In 1904, the 160 medical schools were turning out an average of only thirty-six graduates each, while in 1927, the eighty medical schools will be turning out an average of approximately sixty graduates each

CHART 1—FEWER BUT BETTER MEDICAL SCHOOLS




Five epochs or stages in the campaign for improvement are indicated in the above chart In 1900 (A) the Journal of the American Medical Association began collecting and publishing educational statistics In 1904 (B) the American Medical Association created a permanent committee the Council on Medical Education In 1910 (C) the Carnegie Foundation for the Advancement of Teaching published its report on medical education January first of that year also had been designated by the Council as the date when medical schools should put into effect the entrance requirement of one year of collegiate work This was not made an essential for the Class A rating however until (D) Jan 1 1914 The entrance requirement of two years of college work was made an essential for the Council's Class A rating (E) Jan 1, 1918

### CAPACITY OF MEDICAL SCHOOLS

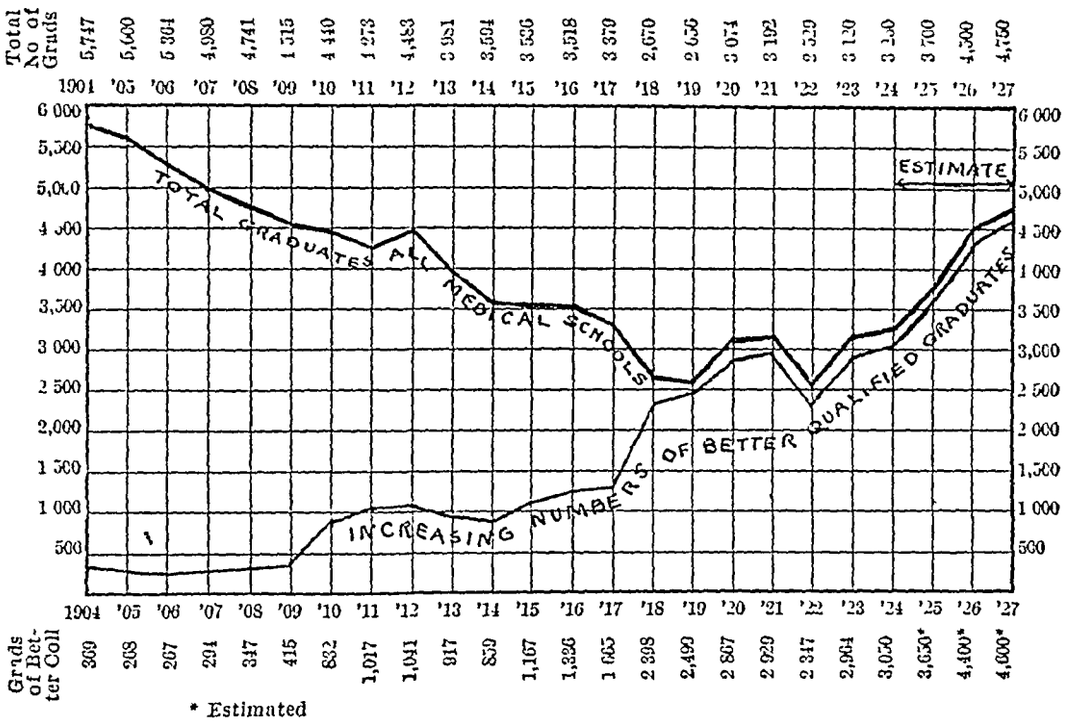
A special investigation recently completed shows that there is room in the seventy Class A medical schools for 17,955 students, although only 16,736 students are at present enrolled —ample space remaining for 1,219 students It is quite evident, therefore, that the 592 students in Class B medical schools

and the 480 students in Class C institutions were not forced into those schools through a lack of space in Class A colleges

These figures refute emphatically the rumors in regard to the inability of well qualified students to secure enrolment in acceptable medical schools It has been variously stated that medical schools turned away "thousands of medical students," or "twice as many students as were enrolled," etc It may be true that students have been turned away from some nearby medical schools, but places have always been available for them elsewhere We have yet to hear of any well qualified student who has failed to secure admission to some Class A institution

The cause of the confusion, as is well known to deans of medical schools, is that students now make application to a score or more of medical schools, some matriculate in, or even make deposits toward tuition fees, in several in order to be sure of a place in some school of their choice They, therefore, become "enrolled" in as many different medical schools, but when the session begins can enter only one, and the other eighteen or nineteen places are left unoccupied

CHART 2—INCREASING SUPPLY OF WELL QUALIFIED GRADUATES




* Estimated

This accounts for the fact that some medical schools find that when the session begins they have less than their full quota of students

### CAPACITY FURTHER INCREASING

A new medical school is soon to be opened at the University of Rochester, N Y , some of the medical schools which heretofore have offered only the first two years of the medical course are planning to provide for the clinical years also, and a score or more of medical schools are enlarging their laboratories, adding to their hospital facilities, or otherwise making provision whereby larger numbers of students may be enrolled In this way it is clear that the total capacity of medical schools will be more than sufficient to care for all well qualified students

## 2 PRESENT SUPPLY OF PHYSICIANS IN THE UNITED STATES

As already shown, ample provision is being made by medical schools to keep this country amply supplied with physicians Although temporarily reduced, the annual number of medical graduates being turned out is rapidly on the increase, and at the same time thoroughly well qualified physicians are being provided

At the present time statistics show that there is one physician in the United States to every 724 people This is a much larger proportion than in the British Islands, where, according to the latest available statistics, there is one physician to every 1,087 people Just prior to the World War, reports from the countries of middle Europe show only one physician for every 2,000 to 2,500 people The supply of physicians in the United States, therefore, is fully ample

### SUPPLY IN RURAL DISTRICTS

There is undoubtedly an unequal distribution of physicians whereby the cities are better supplied than the rural communities There has always been a scarcity of physicians in rural districts, although doubtless the shortage in *numbers* has become more pronounced in recent years This does not mean, however, that the people in rural communities are not as well supplied with medical *service* as formerly, since the improvements of country roads, the interurban cars, the telephone and other means of rapid communication are enabling each physician to cover a much larger territory than heretofore There are certain districts, however, which do not have physicians and where others are not easily available Investigation shows, however, that, with very few exceptions, these are neighborhoods where it is practically impossible for a physician to make a livelihood

### HOW PHYSICIANS MAY BE SECURED IMMEDIATELY

No physician can be induced to locate in a neighborhood where he cannot obtain a fair living In communities, therefore, where there are sufficient people to provide a physician the following methods have been suggested

1 One scheme that has been tried in a few instances is to have a group of citizens guarantee an income of $2,500 or $3,000 a year or more for a physician

2 One state, New Hampshire, has passed a law enabling the people of the county or community to tax themselves in order to support a local physician No definite results from this plan have as yet been reported

3 In Iowa and some other states, laws have been passed to enable citizens of any county or community to tax themselves for the support of a small hospital With a hospital, one or more competent physicians can usually be obtained

The last two measures are feasible only when the community has a sufficient population to justify the employment of a physician or to provide for the maintenance of a hospital

## 3 GRADUATE MEDICAL EDUCATION

In 1916, the Council on Medical Education made its first inspection of graduate medical schools There were then only twenty such institutions, not one of which was providing a graded course of instruction, few were keeping records of attendance, or of work completed, laboratories, where at all found, were poorly equipped and, with a few exceptions, the schools were granting pretentious, diploma-like certificates for courses of one or more weeks in length

Three years later, in 1919-1920, another complete inspection was made, when conditions were found to have been considerably improved A few institutions had greatly strengthened their teaching plants and were providing larger opportunities for graduate instruction The Universities of Minnesota and Pennsylvania had opened graduate medical schools as integral parts of those universities Both were providing courses of three or more years in each of the various specialties, and, at the University of Pennsylvania, numerous short courses also were provided for the instruction of general practitioners

During this inspection, special attention was called to the iniquitous practice of issuing diplomas for unduly short courses and, as a result, such practice was voluntarily discontinued by most of the institutions

In 1920, fifteen special committees were appointed by the Council, one for each of the several laboratory and clinical specialties, each committee including nine physicians generally recognized as experts in that particular subject In 1921, these committees reported the minimum duration and subject content of graduate courses by which, in their opinion, physicians could develop proficiency for the practice of the respective specialties, and reprints of these reports[1] were sent to the executive officers of all graduate medical schools

In 1922-1923, a third inspection of all graduate medical schools was made, and further marked improvements in the institutions were noted Most of the graduate medical schools had voluntarily ceased to grant certificates for courses of less than six weeks in length, more and better graded courses of instruction were being offered, closer attention was being paid to entrance qualifications, and better records of the students' actual work were kept Some institutions, however, continued to grant pretentious diplomas for courses as short as a single week in length, and with little or no regard as to whether the recipient had become proficient

Following this inspection, the "Principles Regarding Graduate Medical Education" were prepared which were included in the Council's report to the House of Delegates in 1923,[2] These principles provide for admission requirements, records, essential supervision, curriculum, graded instruction, qualified teachers, well equipped laboratories, library and museum facilities, essential hospital and outpatient material, annual announcements, and the granting of degrees or diploma-like certificates

### LIST OF APPROVED GRADUATE MEDICAL SCHOOLS

On the basis of these principles, a list of the graduate medical schools was prepared which the Council considered worthy of approval Of thirty-five different institutions that were investigated, fifteen were at once admitted to the Council's approved list and nine have since been added, making twenty-four graduate medical schools that are now approved These are known to be providing well organized and graded courses of instruction for physicians Several other schools are making improvements that will soon qualify them for admission to the list This represents a great improvement over conditions existing in 1916, when a physician who desired to obtain graduate work had to choose blindly from among the maze of unstandardized short courses, which, more than likely would not provide him with the instruction he was seeking

### APPROVED GRADUATE MEDICAL SCHOOLS

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS New York—Higher degree and general practice courses

CORNELL UNIVERSITY MEDICAL COLLEGE New York—Higher degree and general practice courses

HARVARD MEDICAL SCHOOL Boston—Basic review and general practice courses

HERMAN KNAPP MEMORIAL EYE HOSPITAL SCHOOL OF OPHTHALMOLOGY New York

JOHNS HOPKINS MEDICAL SCHOOL Baltimore—Special residencies in the Johns Hopkins Hospital and general practice courses

MANHATTAN EYE EAR AND THROAT HOSPITAL SCHOOL OF GRADUATE MEDICAL INSTRUCTION, New York—Special internships in eye and in ear nose and throat

MASSACHUSETTS CHARITABLE EYE AND EAR INFIRMARY, Boston—Special internships in eye and in ear nose and throat

NEUROLOGICAL INSTITUTE New York—Clinical clerkships

NEW YORK EYE AND EAR INFIRMARY GRADUATE SCHOOL OF OPHTHALMOLOGY AND OTOLOGY New York—Special internships in eye and in ear

NEW YORK POST GRADUATE MEDICAL SCHOOL New York—Special internships and general practice courses

NEW YORK SKIN AND CANCER HOSPITAL New York—Courses for general practitioners in dermatology

PHYSIATRIC INSTITUTE, Morristown N J—Diabetes and other metabolic diseases

STANFORD UNIVERSITY SCHOOL OF MEDICINE San Francisco—Summer courses for practitioners

STATE UNIVERSITY OF IOWA COLLEGE OF MEDICINE Iowa City—Summer courses in public health

TRUDEAU SCHOOL OF TUBERCULOSIS Saranac Lake N Y—General practice course

TULANE UNIVERSITY GRADUATE MEDICAL SCHOOL New Orleans—Higher degree and general practice courses

UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE New York—Special course in surgery

UNIVERSITY OF CALIFORNIA MEDICAL SCHOOL, Berkeley, San Francisco—Higher degree courses

UNIVERSITY OF CHICAGO, RUSH MEDICAL COLLEGE Chicago—Special courses in eye, in ear, and general practice and higher degree courses

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE, Chicago—Higher degree courses in preclinical branches

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL, Ann Arbor, Mich—Summer courses in public health

UNIVERSITY OF MINNESOTA GRADUATE SCHOOL OF MEDICINE, Minneapolis Rochester—Higher degree fellowships and general practice courses

UNIVERSITY OF PENNSYLVANIA GRADUATE SCHOOL OF MEDICINE, Philadelphia—Higher degree and general practice courses

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE St Louis—Courses in otolaryngology, pediatrics, infant feeding, obstetrics, and diseases of the heart

### HOSPITALS AS GRADUATE MEDICAL SCHOOLS

There are 285 hospitals in the United States offering advanced internships in the various specialties, many of which might easily be developed into acceptable graduate medical schools

In these or other hospitals scattered throughout the country, there are doubtless physicians who, in education and special training, are eminently qualified to supervise the instruction of other physicians, and who also have access to sufficient clinical material to provide excellent graduate medical instruction There is a great opportunity, therefore, to enlarge greatly the opportunities for graduate medical education by searching for these teachers and stimulating the development of graduate courses either as independent teaching hospitals or as courses affiliated with, or otherwise relating to, graduate schools of medicine Several such courses in Pennsylvania, meanwhile, have been developed in correlation with the Graduate Medical School of the University of Pennsylvania

TABLE 2.—*Capacity of Medical Schools Under Limited Enrolments*

| Medical Colleges | No Colleges | Total Enrolment 1st Year | 2d Year | 3d Year | 4th Year | Total Capacity | Average per College |
|---|---|---|---|---|---|---|---|
| Class A colleges | | | | | | | |
| 4 year colleges | 49 | 3 731 | 3 424 | 3 270 | 3 094 | 13 519 | 279 |
| 2 year colleges | 10 | 423 | 391 | | | 814 | 81 |
| Estimated capacity | | | | | | | |
| 4-year colleges | 10 | 1 032 | 807 | 851 | 898 | 3 588 | 359 |
| 2 year colleges | 1 | 21 | 13 | | | 34 | 34 |
| Totals Class A colleges | 70 | 5 207 | 4 635 | 4 121 | 3 992 | 17 965 | 256 |
| Class B colleges | | | | | | | |
| Capacity reported | 4 | 196 | 186 | 190 | 190 | 762 | 190 |
| Totals A and B colleges | 74 | 5 403 | 4 821 | 4 311 | 4 182 | 18 717 | 253 |

There is, indeed, a great abundance and variety of clinical material in the United States toward the development of which for graduate medical teaching scarcely a beginning has been made With such material, properly developed, numerous opportunities for graduate medical teaching would be available in all parts of the country There is no hospital, however remote, which cannot be developed into a satisfactory teaching institution if it is found that one or more physicians who are competent teachers can be prevailed on to utilize for teaching purposes the clinical material available in that hospital Perhaps the most important work of the Council on Medical Education and Hospitals for the immediate future is to search out and publish a list of such hospitals as offer opportunities for work in accordance with the principles governing graduate medical education

### EXTENSION COURSES FOR PHYSICIANS IN ACTIVE PRACTICE

In close relationship with the development of graduate medical instruction in outlying hospitals throughout the United States comes the great importance of providing graduate extension work for physicians in active practice who, for various reasons, cannot leave home to secure such instruction in graduate medical schools in distant cities

The Council has been considering this phase of graduate medical education for several years and has collected information in regard to the measures adopted in several states for providing such instruction—measures that are very meager as compared with the great importance and need of such instruction

1 American Medical Association Bulletin Jan 15 1921
2 Report of the Council on Medical Education and Hospitals J A M A 80 1934 1936 (June 30) 1923

The plan for cooperating with country districts and state medical societies in providing graduate extension teaching, such as was suggested by the President and the Secretary of the American Medical Association in their reports last year and which were referred to the Council, has been given most careful consideration At the request of the Council, Dr West kindly outlined a scheme setting forth in more detail how such instruction might be provided by the American Medical Association, and referred to the essential, personnel, equipment and procedure

At its annual business meeting, in the discussion of this subject, the Council noted that the principal work would have a very close relationship with the Association's organization work It was believed also that, because of the nature and scope of the work, it could best be carried on by some bureau particularly established for that purpose It was, therefore, voted

(*a*) That a movement be inaugurated to place graduate medical instruction within the reach of general practitioners of medicine throughout the United States, and

(*b*) That the work be placed in charge of some body or bureau separate from the Council on Medical Education and Hospitals

## 4 Medical Licensure

Statistics regarding medical licensure have been published in The Journal regularly each year since 1903 The collection and development of these statistics naturally became a part of the work of the Council on Medical Education when it began active work in 1905 These statistics have been of tremendous value as a sidelight on medical education and particularly in showing comparatively the successes and failures of graduates of the various medical schools at state board examinations The statistics also have clearly shown that in some states the public is well protected against illiterate and unqualified physicians while in others in varying degrees the opposite situation prevails

### UNRECOGNIZED COLLEGES

Beginning in 1913 the Council included in these statistics each year in tabular form a list of the medical schools showing for each in what states its diplomas were not recognized Publication of this table has had a very decided influence in enabling prospective medical students to avoid the unrecognized institutions It has been an important influence also in inducing certain colleges to adopt higher entrance standards or to make other essential improvements in order to retain the approval of all state licensing boards It is noteworthy that in this list the colleges from which most state boards have withdrawn recognition were those which were rated in Class C by the Council on Medical Education and Hospitals

### CHARACTER OF PHYSICIANS LICENSED IN EACH STATE

Beginning with the statistics of 1917 another table was inserted showing for each state the number of physicians licensed who graduated respectively from medical colleges rated in Classes A, B and C This table has shown clearly for each state whether or not the public was receiving the best protection against incompetent physicians With the statistics of 1922 another table was published containing the total number of physicians licensed in each state during the previous six years who graduated respectively from colleges rated in Classes A, B and C In this table it could be seen for each state whether licensing conditions were being improved or not

### SITUATION IN ARKANSAS AND CONNECTICUT

These tables and the reports on which they were based have enabled the Council at once to recognize and to point out—as was done each year since 1917, editorially and otherwise—the questionable or unreasonable methods of licensure still found in a few states, particularly Arkansas and Connecticut Attention has been regularly called to the fact that these two states were registering in large numbers those who were reported as graduates of two notoriously low grade medical schools, one each being located in St Louis and Kansas City It was noted also that during 1921 and 1922 the Board of Eclectic Medical Examiners of Connecticut, instead of limiting its activities to graduates of eclectic medical schools, received with open arms also large numbers of graduates of low grade regular colleges—those who should have applied for licensure to the Board of Regular Medical Examiners of Connecticut

### INVESTIGATION IN CONNECTICUT

Following the publishing of state board statistics in April, 1923, a vigorous investigation was started in Connecticut by the present efficient Commission of Health of that state, with the splendid cooperation of Governor Templeton and the Attorney General of Connecticut Shortly after this investigation was begun the licenses of 56 physicians, who were declared to have been licensed illegally, were revoked This happened several months prior to the exposure, by the St Louis *Star*, in October, 1923, of the Missouri diploma-mill ring and its extensive activities in Connecticut This exposure gave a new impetus to the Connecticut investigation and led subsequently to the revocation of the licenses altogether of 167 physicians, who were declared to have been illegally registered by the eclectic board in that state The Council has been in position to aid materially in this investigation by furnishing an abundance of data from its files in regard to the medical schools involved—already placed by the Council in its lowest classification—and in regard to the individual physicians whose records were being investigated

### THE DIPLOMA-MILL EXPOSÉ

It is interesting to note that the institutions which were declared to have been involved in the sale of diplomas had long since been in the Council's lowest classification—Class C They were of such low grade that their diplomas were not recognized by the licensing boards of over forty states Even if those who purchased diplomas had actually matriculated in and attended these medical schools regularly for the required four years, and had been regularly graduated, they could not have obtained licenses in more than a few states That is why the diploma-mill ring had to send their "graduates" half way across the continent to get them licensed Slowly, but surely, barriers have been erected against seriously low-grade, medical teaching institutions, and soon, it is believed, Connecticut will be closed to them The publication of state board statistics, coupled with the splendid cooperation the Council has received from the licensing boards has had much to do with this

The attention of each member of the House of Delegates is called to this year's State Board Number of The Journal in which is set forth the present conditions of medical licensure in all states Note also the leading editorial and the current comment referring to the Connecticut investigation No one factor has had more influence on the improvement of both medical education and medical licensure in the United States than these state board statistics

## 5 Hospital Work of the Council

The hospital work of the Council has developed into a clearing house of information as well as a powerful influence for ethical practice in connection with hospitals, and a definite educational program for the training of interns as well as in the better care of patients The publication of data in the Hospital Numbers of The Journal, the listing of all reputable hospitals in the American Medical Directory, the supplying of information to Fellows and other inquirers, the censoring of advertisements regarding hospitals, and the furnishing of ready hospital data for other departments of the home office, makes necessary an up-to-date inventory of all hospitals in the United States

Not only must the routine information about all hospitals be complete, but the ethical and professional standing of those who are permitted to practice in the hospitals is also ascertained This vast amount of information, classified and indexed as it now is, also is frequently sought by individual physicians, hospital staffs, groups, medical colleges, county, city and state societies, as well as by departments of federal, state and city governments and other organized agencies in the hospital field Practically all these agencies reciprocate by furnishing data, which, in turn, enrich the Council's fund of information What is more significant, this increasing cooperation with outside agencies vastly increases the influence of the Council over the ethics and standards of the hospitals and the policies of the cooperating agencies

### HOSPITAL INTERNSHIPS

The work being done by the Council in relation to the intern service in hospitals is still being emphasized

A complete report in regard to the demand and supply of interns and of certain remedial measures that have been proposed was published in the Hospital Number of THE JOURNAL, Jan 12, 1924 Out of 6,830 hospitals on which the Council had reports, only 940 were interested in interns In these hospitals 4,021 interns were serving, there still being an apparent shortage of 635, or 13 6 per cent, of the total demand

Of these 940 hospitals, 660 were on the Council's list of those approved for intern training These approved hospitals were securing 92 5 per cent of the 3,690 interns wanted, while the nonapproved hospitals were getting only 63 per cent of the 966 desired

### INQUIRY REGARDING INTERN PROBLEM

Early in the present year, a special inquiry was made also into the means of relieving the shortage of interns These are reported as follows

(*a*) *Extending internship to two or more years* An increasing number of hospitals are offering inducements to their interns to remain in residence for a year or two longer, thus making the limited supply of interns reach farther, and 558 hospitals are now keeping their interns for an additional year, or are in position to do so

(*b*) *Advanced internship in the specialties* The requiring that interns in the specialties shall have already served a general internship is another means of meeting the scarcity of interns There are 641 special internships, 376 in the special departments of 167 general hospitals, and 265 in the 118 special hospitals It is from some of these advanced internships that courses of instruction in the specialties may be so developed as to make the hospitals worthy of approval as graduate medical schools

(*c*) *Medical students as interns* There were 450 hospitals that reported the use of medical students as substitutes for interns, and in 385 of these the medical students reside in the building One hundred and sixty-three hospitals say that they get along with fewer interns by the use of medical students, 122 report to the contrary

(*d*) *Use of resident physicians* There are 1,544 hospitals that use resident physicians, and 3,912 such residentships in the United States are reported In seventy-eight hospitals the salaries of residents are reported as less than $1,200 a year, in 196, from $1,200 to $1,800, and more than $1,800 in 250 Many hospitals are known to be using resident physicians instead of interns In fact, 1,544 hospitals report resident physicians, as compared with about 900 that use interns This gives some idea of the relative use of resident physicians instead of interns Resident physicians seem to be readily procurable at salaries of from $1,000 and upward a year and maintenance

(*e*) *Proposed use of nonmedical clinical assistants* There were 814 hospitals of twenty-five or more beds that reported the use of 2,061 clinical and laboratory assistants or technicians In reply to a question whether the hospitals would employ well trained nonmedical clinical assistants to write histories and do bedside work exclusive of physical examination and to perform the simpler clinical laboratory tests, 587 answered in the negative and 389 in the affirmative, 286 hospitals were of the opinion that nonmedical assistants could serve as substitutes for interns, while 591 answered that they could not

(*f*) *More publicity regarding need of interns* The shortage of interns is partly a matter of distribution Twenty-three hospitals, each of which had at least one advertisement in THE JOURNAL recently, received 478 replies, or an average of more than twenty for each internship The hospitals approved for interns averaged twenty-seven replies, and the nonapproved hospitals fifteen Places for interns in hospitals would doubtless be promptly filled if the need were brought to the attention of those seeking such places through advertisements or some other effective clearing house arrangement

(*g*) *Increasing numbers of graduates* The present enrolments in medical colleges indicate that larger numbers of medical graduates, by about 500 each year, will be available for internships for the next four years It is evident that the supply of interns will overtake the demand in a few years, unless there is considerable increase in the demand for interns

### AMERICAN CONFERENCE ON HOSPITAL SERVICE

In April, 1919, the American Medical Association initiated a movement for the coordination and cooperation of all national organizations engaged in the care of the sick and injured, which resulted in the organization of the American Conference on Hospital Service Seventeen national organizations, including the American Medical Association, have conducted the activities of the Conference and have supported it in part by annual financial contributions The Conference established a Hospital Library and Service Bureau with headquarters at 22 East Ontario street, Chicago Among other things, the Conference has brought about a sympathetic interest and a better type of cooperation of all organizations of the country which are engaged in various fields of endeavor included in hospital service to the sick and injured

### HOSPITALS APPROVED FOR INTERNSHIPS

Hospitals that desire interns are more than ever recognizing the necessity of making the internship educationally worth while, thus winning a place on the Council's list The consideration of hospitals for internships during the past year is summarized as follows

| | | |
|---|---|---|
| Hospitals on the approved list May 1, 1923 | | 654 |
| Hospitals considered for approval May 1 1923, to April 21, 1924 | 53 | |
| Hospitals in abeyance pending improvements | 37 | |
| Number approved May 1 1923 to April 21, 1924 | 16 | |
| Removed during same period | 4 | |
| Net gain for the period | | 12 |
| Number of hospitals on approved list April 21, 1924 | | 666 |

The approved list has heretofore been published in three sections I General Hospitals, II Nervous and Mental and III Other Special Hospitals Those in Sections II and III have been recommended for physicians who have had general experience or have served a general internship In line with the modern requirements of medical colleges and state boards, for a general rotating internship, and also the increasing tendency to regard a general internship as the proper ground work for specialization, the Council plans after Sept 30, 1924, to publish only the list of general hospitals approved for internships Sections II and III will, therefore, be discontinued as such and, in lieu of them, the Council will publish a list of the hospitals that furnish acceptable special internships which are open only to physicians who have served a general internship

## ABSTRACT OF THE COUNCIL'S REPORT

### MEDICAL EDUCATION

1 Although the total number of medical schools has been reduced from 160 to 80, the number of high grade, better equipped colleges has been increased from 2 to 74

2 The total number of medical students was reduced from 28,142 in 1904 to 12,930 in 1919, but since 1919 the enrolments have been increased by nearly 1,000 students each year, the

total number of students at present enrolled being approximately 17,808—the largest number since 1912

3 The number of graduates of medical schools, likewise, was reduced from 5,747 in 1904 to 2,670 in 1918, but since 1918 there has been a rapid increase interrupted only by the war class which graduated in 1922 An estimate indicates that in 1927 there will be 4,750 graduates, the largest number since 1908

4 The higher entrance requirements and the other improvements made in medical education, therefore, are not causing a dearth in the numbers of either medical students or graduates As a result of the changes, however, there has been a positive increase in the number of graduates who are better qualified, both educationally and professionally—from 267 or 5 per cent of all graduates in 1906 to 2,964, or 95 per cent of all graduates in 1923

5 Although the number of medical schools now is only one-half of what it was in 1904, the capacity has been greatly increased Instead of only 156 students and only 36 graduates for each college on the average in 1904, now each college on the average has 223 students and in 1927 will turn out about 60 graduates

### PHYSICIANS TO POPULATION

6 The United States now has one physician for every 724 people as compared with one to 1,087 people in the British Islands and one to about 2,000 people in the countries of Central Europe

7 Although the number of physicians in rural districts is smaller, this does not mean in all instances a decreased medical service, since the better means of rapid transit enable one physician to take care of a larger area than heretofore The scarcity of physicians in rural communities is more than offset by a great oversupply in the cities

### GRADUATE MEDICAL EDUCATION

8 Instead of twenty postgraduate medical schools which were existing in 1916, practically none of which was providing well established and properly graded courses of instruction, now there are thirty-five, twenty-four of which have been admitted to the Council's list of approved graduate medical schools and are offering greatly improved and graded courses of instruction Nevertheless, the development of graduate medical instruction in the United States has scarcely begun and great improvements along this line are anticipated in the next few years

9 There are 263 hospitals in the United States offering altogether 641 advanced internships in the specialties Most of these advanced internships in the specialties, it is believed, can be developed into acceptable courses of instruction for physicians who wish to become proficient in some specialty

### EXTENSION GRADUATE TEACHING

10 There is great need that through cooperation with county, district and state medical societies, graduate medical instruction be placed within the reach of general practitioners of medicine in various parts of the country This instruction should include courses in physical diagnosis, clinical laboratory instruction and diagnostic clinics At the business meeting of the Council on Medical Education and Hospitals this special work was deemed of great importance and it was recommended that a special council or bureau separate from the Council on Medical Education and Hospitals be established to have the work in charge

### MEDICAL LICENSURE

11 Statistics regarding medical licensure published by the Council in THE JOURNAL each year since 1903, are exerting a tremendous influence toward the improvement of medical education and toward the better protection of the public against incompetent and unqualified physicians

12 The serious conditions in medical licensure in Arkansas and Connecticut have been set forth in these state board statistics, and commented on editorially, every year since 1917

13 The medical schools involved in the diploma mill expose in Missouri, several months ago, have for many years been grouped in the Council's lowest classification—Class C Furthermore, whether secured by actual attendance or by purchase, according to official reports, a diploma from any of these schools would not enable the holder to secure a license in forty-six states The doors were closed against these graduates, therefore, in all but a few states, including Arkansas and Connecticut, and only graduates of eclectic colleges could get licenses in Arkansas That is why graduates of one of the Missouri colleges had to go half across the continent—to Connecticut—to get licenses

14 The investigation of irregular methods of medical licensure in Connecticut was begun a year ago, following the exposure of these irregular methods in the State Board Statistics The investigation gives promise of closing the door in Connecticut also against the output of these low grade schools

### HOSPITAL INFORMATION

15 Since 1905 at the headquarters of the Council an abundance of information has been collected in regard to hospitals, dispensaries and allied institutions in the United States Altogether there are practically 6,830 hospitals which are still active, only 940 of which appear to be interested in interns Of the 940, after careful investigation, 660 have been placed on the Council's list of hospitals approved for intern training

### INTERN PROBLEM

16 Efforts are being made to solve the problem in regard to meeting the demand for interns It is believed that the annual supply of medical graduates can be made to more nearly meet the needs by (*a*) Extending the internship to two or more years, (*b*) requiring that for admission to internships in special hospitals the physician must have previously completed an internship in a general hospital, and (*c*) more publicity whereby the attention of students seeking internships may be drawn to the hospitals needing interns

17 The problem of the shortage of interns is being partly solved through the rapidly increasing numbers of medical graduates Other proposed measures are (*d*) The larger use of resident physicians, (*e*) the larger use (by hospitals connected with medical schools) of medical students, and (*f*) the larger use (proposed but of limited service) of non medical clinical assistants

### THE AMERICAN CONFERENCE ON HOSPITAL SERVICE

18 The American Conference on Hospital Service was established in 1919 by the Council on Medical Education and Hospitals It now has in membership seventeen national organizations which are more or less engaged in the care of the sick and injured and which are cooperating in the support of the Conference by annual financial contributions The Conference has established a Hospital Library and Service Bureau with headquarters at 22 East Ontario Street, Chicago Through this Conference a splendid and sympathetic cooperation and interest have been brought about among the organizations in membership

Respectfully submitted,

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

ARTHUR D BEVAN, Chairman, SAMUEL W WELCH,
WILLIAM PEPPER, LOUIS B WILSON,
MERRITTE W IRELAND, N P COLWELL, Secretary

## REPORT OF THE COUNCIL ON SCIENTIFIC ASSEMBLY

Dr J S Horsley, Virginia, Chairman, presented the report on the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work

*To the Members of the House of Delegates of the American Medical Association*

The Council on Scientific Assembly held its regular annual meeting in Chicago, Dec 21, 1923, with all members of the Council in attendance All matters that could be properly brought to the attention of the Council were given careful consideration at this meeting In the interim, before and after the regular meeting, the affairs of the Scientific Assembly have been conducted through correspondence between the chairman, the secretary and individual members, and prompt attention has been given to whatever has been presented

### Assignments for Section Meetings at Chicago Session

Assigments for the meeting hours of the sections at the Seventy-Fifth Anual Session were made in accordance with the arrangement whereby the sections alternate with respect to morning and afternoon meetings The schedule of section meetings for 1924 is

| MORNING | AFTERNOON |
|---|---|
| Diseases of Children | Practice of Medicine |
| Surgery, General and Abdominal | Obstetrics Gynecology and Abdominal Surgery |
| Ophthalmology | Laryngology, Otology and Rhinology |
| Miscellaneous Topics | Stomatology |
| Pharmacology and Therapeutics | Pathology and Physiology |
| Nervous and Mental Diseases | Orthopedic Surgery |
| Dermatology and Syphilology | Urology |
| Preventive and Industrial Medicine and Public Health | Gastro Enterology and Proctology |

### Annual Conference with Section Secretaries

The regular annual conference of Section Secretaries with the Council was held in Chicago, Dec 22, 1923 The secretaries of all sections except the Section on Practice of Medicine and the Section on Preventive and Industrial Medicine and Public Health were present The Secretary of the Board of Trustees, the Treasurer of the Association, the Director of the Scientific Exhibit and the Assistant Editor of THE JOURNAL were also in attendance and participated in the deliberations of the conference, at which arrangements for the program and important matters in connection with the Chicago Session were considered

### Sessions on Anesthesia and on Radiology

At the annual meeting of the Council it was decided to give one session in the Section on Miscellaneous Topics at this annual session to anesthesia James T Gwathmey, M D, New York, was elected to serve as chairman of this session, E J McKesson, M D, Toledo, vice chairman, and Isabella Herb, M D, Chicago, secretary

Numerous communications were received by the Council, coming from all parts of the country, requesting that one or more sessions in the Section of Miscellaneous Topics be devoted this year to radiology Others asked for a program devoted to radiology and physiotherapy A large number of radiologists protested against this latter proposal, however, and the Council, because of the overwhelming number of such protests and because of the enthusiasm and earnestness of radiologists in seeking to have their own sessions in the Section on Miscellaneous Topics, or even to have a new section created, thought best to arrange for two sessions to be devoted to radiologic subjects Officers were elected by the Council for the Session on Radiology as follows W F Manges, M D, Philadelphia, chairman, Albert Soiland, M D, Los Angeles, vice chairman, and M J Hubeny, M D, Chicago, secretary

### Physiotherapy

In its report to the House of Delegates last year, the Council called attention to the need for arousing the interest of the medical profession in the various forms of physiotherapy Our views have in no wise changed since that report was made but are even more pronounced The interest of the profession needs to be aroused in order that physiotherapeutic measures of established merit may be brought into more general application, and in order, too, that ineffective and unworthy measures shall not be adopted to the discredit of medical science and the dishonor of the profession The Council has requested officers of many of the established sections to solicit papers on physiotherapeutics for this meeting, and an examination of the official program will show that such papers will be presented

### Proposed Amendment to the By-Laws

The report of this Council last year submitted a recommendation to the effect that the By-Laws of the Association should be so amended as to provide for filling vacancies that may occur in the offices of chairman, vice chairman and secretary of any section during the period between annual sessions The reference committee to whom this recommendation was referred acted favorably and so reported to the House of Delegates Instructions were given by the House for the preparation and submission of the necessary amendment This action, however, was taken too late for the Reference Committee on Constitution and By-Laws to prepare and submit the amendment The Council therefore renews its recommendation and offers the following

Amend Section 2, Chapter XIV of the By Laws by inserting, after the seventh line in Section 2, the words If any vacancy occurs in the office of chairman vice chairman or secretary of a section, such vacancy shall be filled by the election by the executive committee of such section of a Fellow who shall serve in the office indicated until the next annual session

Respectfully submitted

J SHELTON HORSLEY, Chairman
F P GENGENBACH
JOHN E LANE
E S JUDD
ROGER S MORRIS
*Ex Officio*
WILLIAM ALLEN PUSEY, President-Elect
GEORGE H SIMMONS,
Editor and General Manager
OLIN WEST, Secretary

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# ADDENDUM

*(Refer page 1938 preceding Reports of Officers)*

The Vice Speaker, Dr Rock Sleyster, took the chair, after which the Speaker delivered his address

### Address of the Speaker, Dr F C Warnshuis

*Members of the House of Delegates*

One year ago, President Wilbur, in addressing the members of this House of Delegates, stated

"This House of Delegates should be, as it is, a great policy-making body" That declaration tersely sets forth the reason as to why we convene in annual session

In our plan of organization and activity, there have been wisely provided a President, Secretary, Editor and General Manager, Board of Trustees, Councils and Executive Officers They are our active officials, charged with the administration of our affairs

Annually we receive from them complete accountings as to what has been accomplished, with their recommendations as to future policies, avenues of new endeavor and plans for the enlargement of our associated activities as their experiences and judgment indicate to be wise and expedient To them, at the close of our annual deliberations, we impart anew our recommendations, orders and authorizations for the ensuing official year Thus, by the exercising of combined wisdom and judgment, the Association's policies and principles are created and applied

As Delegates, you have had at your disposal the Official Handbook containing the annual reports that are officially submitted to you by the Secretary, Board of Trustees and our Councils They impart conclusions and recommendations for your consideration They deal with the important problems that confront the profession They point out wherein and how we best may enhance our organizational interests

and broaden our Association's influence and prestige A careful study of their contents convinces your Speaker that they commendably include the vital questions of the day that press for solution Your Speaker therefore deems it injudicious at this time to submit for your consideration additional comments or recommendations in view of the fact that the pending problems are concisely and concretely presented to you by your officers and executive representatives

Your Speaker, however, feels that he may with every propriety, tender and request consideration of the following recommendation that pertains to the manner and method whereby we give consideration to the important subjects that are presented to this House of Delegates

During the past year I have received several communications from Delegates and Fellows of the Association that conveyed expressions of criticisms and opinions concerning the business or working methods of this House The following extract from a communication from a distinguished Fellow may be appraised as a pertinent and timely comment I quote

"In the American Medical Association a matter is introduced into the House of Delegates, as I understand it, and referred to a committee, but there is no announcement to the members of the Association who may be present that such a matter has been introduced into the House of Delegates, nor any general information given to the effect that it has been referred to a committee The result is that the views of a very large number of practitioners may be ignored because neither the House of Delegates, which is, necessarily, a very limited body, nor the committee is governed by anything except the ideas of its members, and often-times most of the members of the House of Delegates rely upon the report of the committee"

It must be evident to any one who has had experience in this House that important subjects which frequently include fundamental and far-reaching principles and policies in regard to the activities of our Association and its constituent units and members are decided without general consideration True, all such questions are first referred to our reference committees, and action is taken on the recommendations of these committees Opportunity to appear before these committes is customarily afforded Nevertheless, if opportunity were provided for a wider discussion of these resolutions and recommendations by and before all of the Delegates, our final action would without doubt be to the better interests of our Association and the profession as a whole and as individuals

To that end then, your Speaker tenders the following recommendation

That the House of Delegates establish the precedent of going into a Committee of the Whole for an hour or longer, if necessary, on the second day of our annual session and also on Wednesday or Thursday of the week of our session, as your deliberations may deem expedient

In respectfully submitting this recommendation for your consideration, your Speaker does not for the moment desire to be understood as implying criticism on any action recorded at former sessions Neither is the recommendation to be construed as the utterance of an opinion and appraisal that our enactments result from hasty and superficial deliberation On the contrary, the recommendation emanates solely from a desire to provide more time and more deliberation in the formulation and promulgation of plans and policies that are of such vital concern to our future It is your Speaker's desire to be so understood

### BUREAU HEADS

Our Association has several Councils and Bureaus that are concerned with the administrative work of our policies and plans These Councils and Bureaus, in most instances, have full-time executive heads or secretaries To better orient in the minds of Delegates, to evidence the personnel at our Headquarters, and to afford encouragement and inspiration to Bureau Heads and Council Secretaries, it is recommended that the privilege of the floor of the House be extended to these executive officers for a period of five or ten minutes to present brief abstracts of the work that is being accomplished while the annual report of each Council or Bureau is being presented

### DELEGATE'S RESPONSIBILITY

The members of this House individually represent the members of their state organization This is not a small honor, a privilege lightly to be appreciated, nor are you intrusted with idle responsibilities You deal with things present and from that vantage point you forecast and build for the future, erecting a structure of fundamentals, policies and principles that lead on down the years Much has been said regarding the power and possibilities of cooperation Little, far too little, has been said about the responsibilties that go with that power and how it may be abused or misdirected That power of cooperation, however, must not be permitted to suppress individual initiative You are being looked up to by those whom you represent and by the people of not only this nation but of the entire world to acquit yourselves of the trust that has been reposed in you You are the formulators of guiding medical principles and practices that create for our federacy and the entire medical profession of the country a standard and a position that exercise a powerful influence on all civic, commercial and social activities and progress You possess a tremendous power that is at all times a determining factor in the nation's march of progress The hope is advanced that, recognizing these responsibilities, there will be recorded during this session legislative enactments that reflect complete justification of the confidence that has been placed in you

### OFFICIAL DUTIES

During the year, your Speaker has received several invitations to attend the annual or special meetings of state associations It was with considerable regret that personal limitations compelled me to be able to attend only the meetings of the Missouri State and District of Columbia Associations

Your Speaker attended the regular meetings of the Board of Trustees, and is pleased to repeat his comment of last year as to the earnestness and fidelity with which the Trustees perform their duty Privilege and profit has been mine by reason of this association with your Trustees

In the appointment of the reference committees that are to be announced, I have conscientiously and unbiasedly endeavored to give equal and fair representation to each group of state delegates Until one attempts to make a selection of committeemen, he can scarcely realize the time consuming task that it is The one purpose has been to distribute equitably the appointees among as many state delegates as their numerical apportionment of members indicated

### APPRECIATION

I am deeply sensitive to the honor you have conferred on me in permitting me to serve as your presiding officer My appreciation can be measured only by the responsibility which such an honor entails My purpose will ever be, during this session, to merit the confidence and trust imposed, for it is only in that manner that my thanks can be adequately expressed

## Address of President-Elect William Allen Pusey The Trend in Medical and Nursing Services

The President-Elect, Dr William Allen Pusey, delivered the following address, which was referred to the Reference Committee on Reports of Officers

I wish to express again this morning, as I did at the time of my election, my appreciation of the high honor you conferred on me It is an honor which any man may well regard with pride as the capstone of his medical career

I hope I will be pardoned if I take this occasion seriously and discuss at some length, but as briefly as I can, two important problems of medicine as a social agency These are (1) the high cost of nursing training, (2) the high cost of medical training Let me call your attention first, briefly, to the nursing problem and then take up the vastly more important one of physicians

### THE HIGH COST OF NURSING TRAINING

The trained nurse for ordinary service has become inaccessible, except to the rich and for institutional and community employment In order to save time, please assume that I accept at the highest value the present good type of trained nurse There is need for her, but there is much greater need for a very large number of trained nurses who will perform the simple duties of attendants for the sick That is the great function of the trained nurse The ideals of the nursing craft are all away from that point of view The House of Delegates last year in effect approved the recommendation that the standard for entrance requirements for nurse training include "a four year high school education," and then approved the proposition that "the education and training of the nurse should not be so expensive as to place her services beyond the reach of the average family" How are these two propositions to be reconciled? How is the average family going to pay the salary that the high school graduate, who has had two and a half or three years' training in nursing, may justly ask? That puts her out of reach of most people except in cases of desperate emergency That is not the kind of trained nurse that is most needed There should be a trained nurse for the bedside who is available for service in ordinary illness for the ordinary family

The proper work of the trained nurse does not contemplate that she is in a position of primary responsibility Her duty is to care for patients' needs under the physician If she is to do more—to assume the physician's function—she should take the medical course The things she has to do are simple things The work she has to do in ordinary service does not require a high school training nor three years of hospital training It needs young women of character and intelligence, of a sense of responsibility and of elementary education Given such a woman, and the time required to teach her in the hospital the technic of the nursing craft is a small part of three years The effort should be made to provide, as well as a certain number of the present order of nurses, a nurse of that sort in large number

There are, for example, in Illinois at least 136,000 births annually The Department of Registration estimates that there are probably not more than 7,000 registered nurses in service, and many of these are taking care of children or more or less ill ladies in affluent families In other words, there are not more than enough trained nurses in Illinois to take care of the obstetric cases, to say nothing of the scores of thousands annually of seriously ill If no more nurses can be furnished and if less expensive nurses cannot be furnished, the purpose of their existence is largely defeated

The nurses are by no means entirely responsible for the present situation Much of the time in their training has been taken up in using them in the common menial duties of housemaids in the hospital

### THE HIGH COST OF MEDICAL TRAINING

One of the most serious problems of medicine is the increasing cost, both in time and in money, of the physician's training We are producing now a class of doctors who, because of the extent of their training, can justly expect to obtain professional positions and recompense for their services which are very high in the economic and social scale The results of the developing situation are shown by the many plans that are being devised to get expert medical service to the man of small means, even in the cities, in the difficulty of getting hospital interns and medical assistants, of getting medical men for positions which they have always held, such as executives and medical officers of hospitals and similar institutions, of medical boards and medical societies, in the increasing difficulty of the Army and Navy and Public Health Service in filling their corps Whenever a nonmedical man can be used in a quasimedical position it is now being done, because the younger medical men who would naturally be chosen for these positions cannot be obtained Even in the Council on Medical Education and Hospitals, the use is being suggested of nonmedical clinical assistants in hospitals—to do work that would give invaluable experience to young men who are later to practice medicine In the cities, the situation is not so distinct because the cities are still overcrowded with the older generation of practitioners who have not yet passed out But even in the cities the situation exists As a committee of the Philadelphia County Medical Society, composed of David Riesman and William Pepper of the Medical Department of the University of Pennsylvania, and Thomas McCrae and John H Gibbon of the Jefferson Medical College say, in a report (THE JOURNAL, Feb 11, 1922, p 455) on this subject

> Even in the cities there are not enough men to serve as interns as physicians in outpatient department, and in junior positions in hospitals

The situation is the subject of lay editorials and magazine articles It is recognized by the leaders of medical education in the constant discussions of modifications in the medical curriculum, so that general practitioners will be turned out How to get young physicians to go into the family practice of medicine is the main topic of discussion of meetings on medical education

The acute expression of the situation is found in the rural districts, but the rural problem is only part of the general problem arising from the expensiveness of preparation in medicine I think it must be accepted that there is developing a definite scarcity of rural practitioners and that the situation will sooner or later constitute an emergency It is now accepted by the Council on Medical Education and Hospitals, whose secretary says, in his statement in THE JOURNAL, March 15, 1924

> It is true that such a scarcity exists, and that this scarcity is becoming more pronounced is evident

I have taken occasion to ask, by letter, the secretaries of all the state medical societies, two questions (1) Are young doctors going into the smaller towns? and (2) If so are they going in sufficient numbers to supply the future needs of the country district? I have received replies from nearly every state and, with few exceptions, the answers to both questions "No" (*32, No*, 4, Yes, 1 Yes and No, four letters did not answer the questions, total 41)

The reply that is usually made when we are put on the defensive about this situation is that there is no shortage of physicians That answer is beside the point There may be an excess of any commodity, including physicians, but if it is beyond the reach of a part of the population it might as well, as far as that part of the population is concerned not exist Perhaps there is an excess of physicians in every town of 5,000 or more in the country, but that does not help the situation in great districts of the country where physicians are running down to 1 to 2,000 to 1 in 10,000, or more, of population, and where those few are inaccessible to many of the inhabitants

The explanations which, in one form or another, are generally given for the situation put the blame on the rural communities They point out that economic and social conditions of the country are unsatisfactory to the modern medical graduate, that he has become used to hospitals and laboratories and other things of that sort—not to mention social refinements These are but ways of saying that our present graduates are above the rural districts and that we are not providing physicians for them as they now exist

### REMEDIES SUGGESTED

The remedies offered are in line with the explanations Let the rural districts improve their economic and social conditions up to our standards Let them provide hospitals and laboratories Let them make improvements in transportation, build good roads and buy automobiles, even establish ambulance services, so that their people can go to the places where the physician is willing to live These remedies are practically laying down the terms on which the country can get our services, and the more successful ones of us and the newer generation are laying down similar terms in the cities They do in fact, carry the bald inference that, if the situation is to be corrected, the 40,000,000 or 50,000,000 people in the rural districts will have to change their ways to meet the demands of the 30 000 or 40,000 physicians that they are going to need I do not believe that, in the end, either

the city or the country is going to make any appreciable alteration in its economic and social condition in order to avail itself of our services Specifically, I believe it is impractical to expect that the rural part of the community is going to reconstruct itself, within any future so near as to be of any interest to us, in such a way as to meet the demands of one tenth of one per cent of its population, no matter how necessary that one tenth of one per cent may be to it

Let the situation become somewhat more acute and let the 40,000,000 or 50,000,000 people in the country who constitute most of the producers come to realize that this sort of thing is the best we have to offer to them for the care of their suffering, and they will take the matter into their own hands We should not wait for that time to occur

We cannot escape the responsibility by maintaining, as in substance we do in these contentions, that the fault is the country's That is not following sound economic principle The social and economic conditions of a country involve great essential facts beyond the power of any small group to alter To be on sound economic ground—and if our policy is to prevail, it must be on sound economic ground—we must meet the situation of scores of millions of people as it exists We must offer a direct—not an indirect—solution, or sooner or later admit that the situation is beyond us

In the cities, no suggestions are offered to overcome the scarcity of physicians, because there is no scarcity, but futile efforts are being made by us to change the results of our present system of medical education in the way that will get men back to the family practice of medicine for the everyday patient

Almost none of the remedies that we offer seem to contemplate the maintenance in the rural districts of the old status of physician and patient We offer no direct solution of the situation The remedies offered are socialized substitutes the establishment of medical centers, of small hospitals and laboratories, the guaranteeing of part of the physician's income by voluntary subscription of individuals or by taxation of towns and districts, the establishment of scholarships on condition that the medical student after graduation will return to a given place to practice, even the building of hospitals and medical centers through outside governmental aid, in districts which cannot themselves afford to furnish institutions of this sort of sufficiently high grade

These are all expedients—for the most part untried—to remedy a condition in which natural supply has failed to meet demand, and they are all steps in direction of medical socialism, or, if you please, "state medicine" As a matter of fact, some men see the logical end of the course we are pursuing and offer the opinion that "state medicine" is probably the only solution of medical services for the masses That it is a step toward medical socialism particularly applies against the proposition which was adopted by the House of Delegates last year, recommending that districts in need should guarantee a certain income to the physician in order to get him to settle in its midst Let the country acquire the habit of paying, as a community, a physician a salary for part of his service to that community, and it will be but one more step for it to hire him for all his service and have him as an employee for taking care of the community's sick And then you will have the panels and the *Krankenkassen* of Europe

Is this the only sort of remedy that we can offer? Are we reduced to the necessity of accepting as inevitable that the old order is passing, that we can no longer produce physicians to go out and do the old time, everyday work of practicing medicine, that we cannot change a course of ours whose direct trend is toward the day when service for the individual of ordinary means can be furnished only through some sort of industrial or socialized expedients, that in the rural communities there is no way of furnishing physicians of the new generation except by changing their economic and social conditions? Is there not some other way?

I raise the question Is the medical profession so sure of the wisdom of the present standards of medical education toward which it is striving, and of the quality of that medical training, that it cannot consider any alteration in medical education which might remedy the situation by supplying the people with physicians, who would be willing to practice medicine as we have always done and as the older generation is now winding up its career in doing?

I have no inclination to criticize the work that has been done in the elevation of medical education in this country I recognize the necessity there was for it and the courage and zeal and public spirit that was required to bring it about I do, however, urge that, in pursuit of our ideals of scientific medical training, we have reached a point now where we must give consideration to these results

In this situation, instead of unconsciously assuming that our present standards of medical education are sacrosanct and suggesting that everything else be changed instead of it, would it be contrary to public policy to have the universal degree in medicine one which would represent an adequate training for practitioners of medicine, but which would not be exacting beyond all other professions in time? I believe that such a course is feasible

### A PLAN OF ADEQUATE PRELIMINARY TRAINING

In order to put a concrete proposition before you, I propose that an adequate preliminary training for the practice of medicine could be given on the following terms

1 The present accredited high school education
2 Three years of medical training
3 A hospital internship of not less than a year and a half
4 Proper selection of students on the ground of fitness

That would turn out a practitioner in from four to four and a half years after leaving high school

In this proposition I am making no plea for the poor or the cheap medical school The essential of a sound education of this sort, or of any sort, is a sound institution conducting it I would make the requirements on medical schools as exacting as necessary to hold them to high standards of scholarship I would have them, as far as possible, an integral part of strong educational institutions

Nor am I offering this sort of medical education as a makeshift to meet a situation I offer it as one that would be adequate, sound pedagogically—probably sounder than our present course—and in line with other technical educations The essential things in it are first, that the collegiate part of the course should be educationally sound, and, second, that it should include a clinical training through a hospital apprenticeship I am willing to maintain that such a course as I have indicated, carried out under proper conditions, and including not less than a year and a half in a good hospital, would turn out better practitioners than we have ever turned out, except perhaps since we added, two or three years ago, one year of hospital apprenticeship to our present requirements, for the most essential thing in training for the practice of medicine is a clinical apprenticeship

Now, I know that the practice of medicine is an art founded on science, but I also understand that an art founded on science requires practical training to attain skill in it And the only way that sort of practical skill can be gotten in medicine is through an apprenticeship in practice This is just as true in medicine as it is in music or painting or playing billiards The weakness of our medical education has always been here We have tried to make our practitioners by giving them an academic and laboratory training and the merest smattering of clinical training, but have not required the apprenticeship necessary to attain practical skill and experience Foster has pointed this out in an able article on the results of medical education as shown in the Army (THE JOURNAL, May 24, 1919, p 1540) He called attention to the fact that what our graduates lack, even from the better Class A medical schools, is not a knowledge of the things that should be done, but how to do them Young men, who had clinical skill, had been in good hospitals, they might be deplorably deficient in it and come out of good medical schools The great practitioners of medicine in this country, even in the last thirty years, have not come out of the great medical schools, they have come out of the hospitals

Such a course as I have outlined would give the student the preliminary training, including the practical training, that would make him competent to face the demands that were placed on him in beginning practice, he would know what to do for the ordinary sick and injured, because he would already

have seen it done and helped to do it It would furnish a foundation that would allow him to build as high as he is capable of It is a better preliminary training than nearly all the great careers at this very day have been built on

This sort of course I would require as the universal degree in medicine, an M D degree corresponding to the collegiate technical degrees For the man who started out, or later decided, to become a specialist or consultant, or who wanted a university or research career, I would put the necessary number of years on top of this course and give him a degree that corresponds to the collegiate Ph D Our M D degree today represents fully as much time as the best grades of Ph D's, but it represents nothing like the same standard of culture or of technical skill in special lines Having the universal degree and its preliminary training in clinical medicine, the man seeking the higher places in medicine would then have the proper foundation on which to prepare himself actually for them The higher degree would mean something Tradition would soon give it value, and the highly ambitious men would seek it as they now do for memberships in the colleges of Great Britain In the meantime, it would leave an opening in the primary degree for that great number of useful men who desire to take up the work of the everyday practice of medicine—the men who constitute the great and useful majority of the profession

The social need of medicine is this sort of practitioner The point I am trying to make is that we can produce such practitioners in four years after graduation from high school, and that we shall have to do something of this sort if we are to meet the proper demands of service to the whole people that society has a right to expect of us

In such a plan I would make the requirements of the student so exacting that medicine would not be overrun by mediocrity Our schools are now filled with students who are able to spend seven years in order to aspire to careers in medicine I would not interfere, if I could, with a few schools whose aim is only to supply the Ph D's of medicine, but I would make the requirements of those schools so exacting that their graduates in number and culture would correspond to the Ph D's of the best universities

The demand for the four year course would certainly be greater than at present. That would enable us to exact from students the highest standards of fitness At present, among the requirements for the study of medicine the most difficult one to meet is the wherewithal for the student to live until he is 25 or 30 years old without supporting himself Under the plan I propose, we could cut this difficulty almost in two, and we could make as exacting as necessary the requirements of fitness, which, after all, is the great one in medicine or any other vocation Fitness, and not a competency in early life, could be the essential requirement for a medical career

## OBJECTIONS

Time will allow only brief reference to the objections that will be raised to this proposition The high school graduate has not had a training to grasp the intricacies of modern medicine, three years of collegiate study would not be sufficient to train him in the essentials of medicine I would be more impressed with the validity of these arguments were it not true that a very large number of the ablest members of our profession, even at the present time, have had as little or not more preliminary scientific training, and have shown themselves able to comprehend successfully the intricacies thus far In a positive way, I am very strongly of the opinion that the intelligent high school graduate can undertake the study of medicine can in three years be grounded in the principles of medicine, can, in addition, get a comprehensive grasp of the essentials of the practice of medicine, and can be trained to the point where he can continue his professional development And that is all that we can reasonably expect in any preliminary training As for the high school preliminary, to quote Mr Abraham Flexner, " a highly useful doctor can be trained on the high school basis if his efforts are made the basis for more instead of less efficent instruction" (Medical Education in the United States, p 41) As a matter of fact, the essentials—and by the essentials I mean that part of a subject that is necessary to get a grasp of its principles and an orientation of its important facts—the essentials of biology, bacteriology, anatomy, physiology, chemistry, pathology, even of the practice of medicine and surgery, are not so extensive that they cannot be covered in a collegiate course of three years, including in the laboratory sciences sufficient illustrative laboratory experience to familiarize the student with the technical methods of these various subjects More than that he should not have It is all that you and I carry in our heads, except in subjects to which we give life-long, intensive study The best that any man can hope to have is such an orientation of essentials For details we must refer for information

We must sooner or later face the fact that our preliminary training will have to be confined to essentials of this sort We have been arguing for the increase of our medical course on the ground of the vast increase of medical knowledge Medical knowledge is not static It is entirely possible that it will increase as much in the next twenty-five years as it did in the last twenty-five years When that time comes, are we going to add two or three or four years more to the preliminary training? In three or four generations, life would be too short to make any physicians at all

Our students are now overloaded with detail which is beyond anybody's capacity to retain, which interferes with proper education, with proper appreciation of relative values, and with proper perspective in medical knowledge This, I believe, is one great reason why nearly every student comes out feeling that he must be a specialist He is so overwhelmed with the detail knowledge of medicine that he realizes that he cannot carry it all and must confine himself to one small field of it As a matter of fact, nobody can carry all of it in one small field And I think the estimate fair that, in the practice of medicine, 90 per cent of our work is covered by a knowledge of essentials and of our usual procedures In a small part of it we all have to get help by study or consultation, no matter how expert we may be in our particular lines

Let me say in this connection that I do not underestimate the value of an academic training such as is represented by a college degree, but I value it rather for the background of culture that it gives a man in his general outlook on life than as a necessity for the study or practice of medicine

The course that I have suggested is not so radical as we are likely to regard it It is not out of proportion with the courses that prepare for other learned professions It is ours that is out of proportion with all the rest A high school training is accepted by the universities as sufficient preliminary training for the technical professions—for civil mechanical, electrical and mining engineering, for example I do not believe that it can be successfully maintained that the preliminary training necessary for beginning the study of medicine requires a more mature mind, or one more capable of grasping complex problems, or a more difficult preliminary education than do courses leading to these degrees which are founded on mathematics, physics and chemistry

There is an attitude, when such a course as I have outlined is suggested, that this would turn out men of second rate education, that medicine cannot afford to reduce its educational standards to this low degree I do not believe that is justified by the condition in the other learned professions The colleges find that they can take young men from high school and give them in four years the accepted amount of general culture for intellectual careers They do the same thing with the technical professions at the same time that they are giving them their professional training, and the engineers and architects and chemists do not suffer in the cultural comparison Is there any reason to believe that the biologic sciences, and medicine itself, are not as good means of intellectual training as are other scientific studies?

Our disproportionately long course puts us at a disadvantage with these other professions in competition for young men Medicine's material rewards are certainly no greater its intellectual exercise and its careers are no more attractive, but the preparation for its practice requires three years' more time and several thousand dollars more money at the time when economic pressure is hardest This relatively greater cost in time and money of medical education is a matter of decisive importance If it does not seem so to you now, I

ask you to go back to the time when you contemplated the study of medicine, and consider whether $10,000 or $12,000 of expenditure and seven years of immediately unproductive preparation would not have been appalling to most of you then, if the saving of $3,000 or $4,000 and three years of your time might not have been a critical matter in the choice of your occupation? Who can doubt that this drives away from medicine to engineering and other professions many of the best quality of young men?

Ours is the only profession that requires as a minimum for everyone of its practitioners a period so long that its independent, responsible work cannot be undertaken until a time in life when other young men have gotten well started in their careers Aside from these economic difficulties, this undue prolongation of pupilage is open to grave criticism Many students of education have called attention to the dangers to character that result from keeping young men and women too long under the educational direction of others After parental influence there is no part of the discipline of life that has more to do with the development of sturdiness of character and practical success than to the experience and discipline which are gained in the early years of manhood when life's responsibilities are assumed It is desirable that this experience should come in the plastic period of young manhood We are postponing it in medicine later than in any other vocation This prolongation of tutelage and postponement of the responsibilities of life constitute a grave indictment against our policy of medical education And this is increased by the makeshifts which are being proposed in order to help young men along in their medical education or in the early years of their practice, such as scholarships, bonuses and other crutches for men who would do better if they were so situated that they could walk alone It is not conducive to a virile profession to have its members go well along into manhood before undertaking the independent responsibilities of life

It is argued, of course, that there can be no compromise on a matter so vital as training for the care of human life, and that sounds like an unanswerable argument It is true that the best doctor is none too good, it is equally true that the best doctor is not good enough There is nothing easier than to give counsels of perfection, and there is nothing more likely to lead into situations of impractical futility than to follow them On the same reasoning there would be no school teachers except Ph D's, and then there would be school teachers only for the few If we make physicians who are out of reach of a considerable part of the population, we are making no provision for physicians for that part of the population It is not meeting the practical demands of life The world must have physicians it can afford to employ What service do we perform for a community by insisting that only a physician of our standard is good enough for it if we furnish it no physician at all or none that it can get?

One of the assumptions that we have accepted as a matter of course is that we should undertake to equal the standard of medical education in Europe I am not unresponsive to the experience and judgment of other nations in medicine, but I do not accept it as axiomatic that we must adopt continental, specifically German, standards of medical education Indeed, to me the strongest argument against our present plans of medical education is the medical service in Europe that has arisen under its system of medical education The doctors in Europe present the same difficulties that we have here They do not furnish independent medical service to the population in general Except through organizations, they are the physicians of the upper classes Mr Abraham Flexner's report on medical education in Europe for the Carnegie Foundation for the Advancement of Teaching, in 1912, shows that in 1907 there were in Prussia more midwives in proportion to the population than there were physicians in proportion to the population for the whole German Empire (one midwife to every 1,816 inhabitants in Prussia, one physician to 1,912 inhabitants in the whole German Empire) That means that obstetrics for most of the people of Prussia and doubtless of Germany is in the hands of midwives That tells the story of the sort of independent medical service—I mean independent as distinguished from institutional, industrial and state medical service—that the worker and peasant in Europe get We hear much about the inadequacy of the medical practitioner produced under our old conditions of education, but at its worst it never gave the country service as low as that Is that the sort of thing that we want to reach in this country? Do we want to work to an economic situation where the personal physician would be a luxury beyond wage earners and farmers? It will fortunately be a long time before the American wage earners are as patient and docile as their brothers in Europe have been, but even with them the present situation of medical service is in constant difficulties There is "state medicine" and industrial medicine in the form of the panels and the *Krankenkassen,* and these are satisfactory neither to physicians nor to patients There is turmoil now on both sides over them

Of course, the answer is made that this cutting down of the course to four years would not overcome the difficulties, would not get men back to family practice nor to the country The same arguments are used to support this position that were used ten or fifteen years ago to prove that the proposed increased requirements of medical education should not cause the difficulties that were predicted then and that have since occurred Now, although these difficulties, which were predicted from the change, have occurred, it is stoutly maintained that they are not due to the obvious cause but to innumerable collateral circumstances This contention is an argument of defense It has the advantage that it cannot be entirely disproved except by experience, and we are making no plans to verify its correctness by experience

Besides the pragmatic argument of our experience and of the difficulties that have developed, there are many arguments that might be adduced to indicate that this contention is not correct The great fact, which has preponderant weight in this connection which no amount of argument will set aside, is the action of the general economic principle that, as you increase cost you restrict distribution This principle acts inexorably whatever your commodity, and practicing physicians are a commodity that comes under its control just as surely as do automobiles

### THE OUTCOME

To sum it all up, the point which, as I see the situation I feel must be made, is that we are confronting, to use Cleveland's famous phrase, a condition and not a theory, that we are approaching a situation that far exceeds in importance mere academic consideration I have suggested one plan which I believe is adequate and would go far to relieve the situation and is in accord with sound economics I do not suggest it as the only plan or the best one Let some one present a better and a more practical plan that meets the situation directly I emphasize "directly," for if the solution is to be by economic and social changes it will not be left to us, that sort of thing is beyond any small group Sooner or later the problem will demand solution It is desirable that we should guide in this If we do not, I believe there are three possibilities Medicine for the masses will cease to be an independent vocation, and we shall have medical socialism, or the legislatures will take the matter into their own hands and we shall have a confusion in the standards for the practice of medicine, or a large minority of the community will be without physicians

### Reference Committees

The Speaker announced the following Reference Committees

REPORT OF BOARD OF TRUSTEES AND SECRETARY

| | |
|---|---|
| E Elliot Harris, Chairman | New York |
| L L Sheddan | Tennessee |
| Southgate Leigh | Virginia |
| W A Donaldson | Pennsylvania |
| Irvin Abell | Kentucky |

REPORTS OF OFFICERS

| | |
|---|---|
| Holman Taylor, Chairman | Texas |
| H A Royster | North Carolina |
| A W Hornbogen | Michigan |
| D E McGillivray | Washington |
| A J Bedell | New York |

LEGISLATION AND PUBLIC RELATIONS

| | |
|---|---|
| J A Pettit Chairman | Oregon |
| Horace M Brown | Wisconsin |
| W R Steiner | Connecticut |
| W H Seeman | Louisiana |
| W A Cook | Oklahoma |

HYGIENE AND PUBLIC HEALTH

| | |
|---|---|
| J W Kerr, Chairman | U S P H Service |
| George Edward Follansbee | Ohio |
| R. L Greene | Illinois |
| E. B Heckel | Pennsylvania |
| J Becton | Texas |

CONSTITUTION AND BY-LAWS

| | |
|---|---|
| William Gerry Morgan Chairman | District of Columbia |
| E L Hunt | New York |
| E. P North | Missouri |
| W D Haines | Ohio |
| G F Keiper | Indiana |

CREDENTIALS

| | |
|---|---|
| J D Brook Chairman | Michigan |
| J L. Rothrock | Minnesota |
| Horace J Brown | Nevada |
| C T Pigot | Montana |
| Rolland Hammond | Rhode Island |

SECTIONS AND SECTION WORK

| | |
|---|---|
| Isaac Abt Chairman | Section Pediatrics |
| C E Mongan | Massachusetts |
| L. H McKinne | Colorado |
| D E Sullivan | New Hampshire |
| Albert Soiland | California |

RULES AND ORDER OF BUSINESS

| | |
|---|---|
| H P Linsz Chairman | West Virginia |
| F T Kidder | Vermont |
| Edgar A Hines | South Carolina |
| E A. Pray | North Dakota |
| W P Eagleton | New Jersey |

MEDICAL EDUCATION

| | |
|---|---|
| F B Lund Chairman | Massachusetts |
| J R. Eastman | Indiana |
| Thomas G Cullen | Maryland |
| J A Witherspoon | Tennessee |
| W H Mayer | Pennsylvania |

MISCELLANEOUS BUSINESS

| | |
|---|---|
| H P Beirne Chairman | Illinois |
| Donald Macrae | Iowa |
| A D Dunn | Nebraska |
| W R. Bathurst | Arkansas |
| G P Johnston | Wyoming |

### Communication from the Vice President

The Speaker read the following communication from the Vice President, Dr W E Musgrave, which was referred to the Committee of Hygiene and Public Health

I regret that the condition of my health will not permit my attendance at the Chicago Session I take this occasion to urge the serious consideration of a resolution to the effect that we consider periodic medical examinations of all people from birth to death so important in health promotion that all state county and other medical societies are urged to pass and give publicity to and carry out as part of the health program of organized medicine the resolution requesting all members to make these examinations in their offices free to all persons who ask for such favorable consideration We consider this work to be the practice of medicine which should be undertaken only by adequately educated physicians licensed to practice medicine and that it should be done and recorded with the same thorough, sympathetic confidential relation between physician and patient or family that has ever characterized the efforts of true physicians

### Reapportionment Committee

The Speaker announced the appointments on the Reapportionment Committee, besides the Secretary and the Speaker, of Dr Charles Mears, New York, Dr A. T McCormack, Kentucky, and Dr E M Neher, Utah

### Report of Secretary

The Secretary presented his report, which was referred to the Reference Committee on Report of the Board of Trustees and Secretary

### Report of Board of Trustees

Dr Wendell Phillips New York, presented the report of the Board of Trustees, which was referred to the Reference Committee on Report of Board of Trustees and Officers

### Report of Judicial Council

The report of the Judicial Council was referred to the Committee on Reports of Officers

### Report of Council on Medical Education and Hospitals

Dr Arthur Dean Bevan, Illinois, chairman, presented the report of the Council on Medical Education and Hospitals, which, with remarks by the President-Elect, was referred to the Reference Committee on Medical Education

### Death of Mrs Hubert Work

Dr A T McCormack, Kentucky, moved that the Secretary wire to Dr Hubert Work an expression of sympathy on the death of Mrs Hubert Work

Seconded and carried

### Report of Council on Scientific Assembly

Dr J Shelton Horsley, Virginia, chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work.

## NEW BUSINESS

### Resolution on Occasional Joint Meetings with the Canadian Medical Association

Dr George F Keiper, Indiana, presented the following resolution, which was referred to the Board of Trustees

WHEREAS, It has been the privilege of many of us engaged in the so-called special lines of practice to frequently meet our confreres from Canada in the meetings of societies devoted to special lines of practice and our associations have revealed the splendid achievements and personalities of these men to us and

WHEREAS A closer bond of amity and scientific achievement is always desirable between medical men wheresoever scattered be it

*Resolved*, That it is the sense of this House of Delegates of the American Medical Association that occasional joint meetings of the American Medical Association and the Canadian Medical Association would be desirable and that the first joint meeting be held within the next five years be it further

*Resolved* That the matter of arranging for such meeting be entrusted to the Board of Trustees of the American Medical Association to report at the next annual session of this House

### Resolution on Interchange of Official Delegates with Canadian Medical Association

Dr George F Keiper, Indiana, presented the following resolution, which was referred to the Board of Trustees

WHEREAS The American Medical Association in session at San Francisco in 1923 was honored by the visit of an official delegate from the Canadian Medical Association, its secretary, John W Scane M D be it

*Resolved* That the American Medical Association enter into arrangements with the Canadian Medical Association whereby an interchange of official delegates to the annual sessions of each Association may be had the arrangement for which to be consummated through our Secretary be it further

*Resolved* That the appointment of such official representative to the Annual Sessions of the Canadian Medical Association be left to the President of the American Medical Association with the recommendation that our first official delegate be our Secretary Dr Olin West

### Resolution on Proposed Amendment to By-Laws

Dr George F Keiper Indiana, at the request of Dr Gerry Morgan, Washington, D C, presented the following resolution, which was referred to the Committee on Constitution and By-Laws

Amend Section 2 Chapter 7, of the By Laws by striking out all words in this section after the word Vote at the end of the eighth line

### Resolution on a Radiological Section of the American Medical Association

Dr Cornelius Van Zwalenburg, California, presented the following resolution, which was referred to the Reference Committee on Sections and Section Work

WHEREAS The Radiological Society of North America through the president executive committee and counselors unanimously resolved to favor the creation of a section of radiology in the American Medical Association and

WHEREAS The Radiological Society of North America consisting of 800 members who are Fellows of the American Medical Association and is represented in every state of the Union Canada Cuba etc and

WHEREAS The members of the American Roentgen Ray Society and the American Radium Society also approve the substance of these resolutions and

WHEREAS In executive session on Thursday evening June 5 1924 and on June 6 1924 voted unanimously to adopt this resolution and also that Dr Albert Soiland, former president of the Radiological

Society of North America and a Delegate from California to the American Medical Association, be respectfully requested to present this resolution before the House of Delegates during the session in Chicago, be it therefore

*Resolved,* That the temporary section on Radiology in the American Medical Association be made permanent

### Report of Committee from Section on Laryngology, Otology and Rhinology on the Otolaryngic Hygiene of Swimming

Dr H M Taylor, Florida, presented the following report, which was referred to the Reference Committee on Hygiene and Public Health

At the last meeting of the Section on Laryngology, Otology and Rhinology, a committee of five was appointed to take up with the Board of Trustees the matter of compiling information relative to the otolaryngic hygiene of swimming and to disseminate the information to the profession and lay population It is the opinion of this committee that one of the most important otologic problems today is the prevention of aural and sinus infections which result from injudicious swimming and diving, and which in the majority of instances follow bathing in public swimming pools where sanitary conditions are not in keeping with proper standards

It is the hope of this committee appointed by the Section on Laryngology, Otology and Rhinology, that the Board of Trustees and House of Delegates make a favorable recommendation in order that this committee can give greater and more careful study to many phases of the problem, such as (1) nature and extent of infection over the country, (2) epidemiologic studies, (3) suggestions as to proper standards to overcome present difficulties, and (4) some plan as to the proper education of the profession and the bather as to the care of the nose and ears while swimming and diving

H MARSHALL TAYLOR, Chairman, Jacksonville, Fla
RALPH A FENTIN, Portland, Ore
MILLIARD F ARBUCKLE, St Louis
LEE HURD, New York
HILL HASTINGS, Los Angeles

### Resolution on Cosmetics

Dr Howard Fox, Section on Dermatology and Syphilology, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations

WHEREAS, There has lately been an enormous increase in the use of cosmetics, and,

WHEREAS, Many of these cosmetics contain chemicals irritating and even dangerous to the human organism, and,

WHEREAS, The dye paraphenylendiamin has so often resulted in serious and even in dangerous irritation when employed in furs and on human hair, be it

*Resolved,* That the Section on Dermatology and Syphilology, through its regularly appointed Executive Committee, urgently recommend to the favorable attention of the American Medical Association that they foster legislation placing cosmetic preparations under the Food and Drug Act, and especially requiring the placing of the names of all poisonous ingredients on the labels

That they foster legislation prohibiting the use of the most harmful types of ingredients in cosmetics, and that they foster legislation to prohibit the use of paraphenylendiamin as a dye for hair and fur, and that this Council on Legislation of the American Medical Association urge laws with criminal liability to enforce the recognition of these demands

### Resolution on Dissociating Editorship and General Management of Association

Dr Wells P Eagleton, New Jersey, presented the following resolution, which was referred to the Committee on Miscellaneous Business

*Resolved,* That the delegates of the Medical Society of the State of New Jersey be instructed to use their influence and votes (1) to dissociate the editorship and general management of this Association, on the retirement of Dr Simmons, placing the editorship entirely separate from the general management of the Association so that the editor may devote his entire time to the scientific and ethical aspects of the profession And that they use their influence and votes (2) to obtain an ad interim meeting of the House of Delegates at the headquarters of the Association annually, as it is impossible for the House of Delegates to do their full duty by the Association by having a meeting but once a year

### Resolution on Questions of Ethics and Propriety Concerning Institutional Publicity

Dr George E Follansbee, Ohio, presented the following, which was referred to the Committee on Legislation and Public Relations

WHEREAS, Many problems and questions of ethics and propriety concerning institutional publicity, are constantly arising, and,

WHEREAS, There is no definite published guide available to the directors and officials of medical institutions, and,

WHEREAS, There is a widespread need for such guidance, therefore be it

*Resolved,* By the House of Delegates of the American Medical Association

1 Publicity by clinics, hospitals, sanatoriums and other semipublic medical institutions as to quality of work done implies unusual and exceptional ability and efficiency on the part of their professional staffs and therefore is advertising of the medical men concerned This type of advertising distinctly savors of quackery and is unethical

2 Publicity by any such institution stating or implying that by reason of its exceptionally fine equipment and material resources, it is able to, or does, give the public better medical service than similar institutions are able or willing to render, is advertising for purposes of self aggrandizement Statements of this type are frequently exaggerated and misleading, are detrimental to the best interests of the public, of the institution concerned, and of true medical progress Publicity of this kind is unethical

3 Hospitals, sanatoriums and other similar public medical institutions must raise funds both for capital investment and running expenses from an interested public Furnishing to the public facts concerning such an institution, its work, its aims and its ideals is legitimate and desirable Such publicity deals in facts to which the public is entitled and in which it is interested, and is therefore ethical, provided it carefully refrains from any comparisons, either direct or implied, therefore be it further

*Resolved,* That the proper officers of the American Medical Association be instructed to seek the approval of the American Hospital Association of these ethical standards

GEORGE EDWARD FOLLANSBEE,
By Director of the House of Delegates
Ohio State Medical Association

### Resolution on the National Prohibition Act

Dr T C Chalmers, New York, introduced the following resolution, which was referred to the Committee on Legislation and Public Relations

WHEREAS, Alcohol is a drug necessary in the treatment of certain diseases in the opinion of a majority of practicing physicians, as heretofore determined by the poll of the American Medical Association, and

WHEREAS, The use of alcohol in medicine by physicians is limited, regardless of the condition of the patient by the National Prohibition Acts, and

WHEREAS, The confidential relations maintained between the physician and his patient are violated by the said National Prohibition Acts, and

WHEREAS, The interests of the patient and the success of the physician require that such medicinal alcoholic liquor as is prescribed in the treatment of disease be of known purity and alcoholic content, and

WHEREAS, This can be accomplished only by the marketing of bottled in bond alcohol for medicinal purposes in containers suitable for dispensing, unopened, by the pharmacists in such sizes as will meet the patient's needs, be it

*Resolved,* That the House of Delegates of the American Medical Association expresses its disapproval of those portions of the National Prohibition Acts which interfere with the proper relation between the physician and his patient in prescribing alcohol medicinally

*Resolved,* That the House of Delegates of the American Medical Association instruct the Board of Trustees to use its best endeavor to have repealed such sections of the National Prohibition Acts as are in conflict with the above resolution and also use their best endeavor to have the Commissioner of Internal Revenue and the Prohibition Commissioner issue revised instruction on the use and the prescribing of alcoholic liquors for medicinal purposes by physicians

### Resolution on Lack of Uniformity in Reporting Deaths in Puerperal State

Dr C E Mongan, Massachusetts, introduced the following resolution, which was referred to the Committee on Hygiene and Public Health

At the request of the Section on Obstetrics and Gynecology of the Massachusetts Medical Society, I wish to present the following resolution

WHEREAS, There is a lack of uniformity among the several states of the United States in reporting deaths in the puerperal state, and,

WHEREAS, This lack of uniformity has placed the United States' death rates in the puerperal state in an unfavorable position, be it

*Resolved* The House of Delegates of the American Medical Association in session June 9, 1924, memorialize the Director of the Census Bureau to the end that the Director of the Census Bureau request the several states of the United States to follow the method, under the International Classification of Diseases, adopted by the Registrar General of England and Wales, in reporting mortality rates in the puerperal state

### Conflict of Annual Sessions with Final Exercises of Medical Colleges

Dr Southgate Leigh, Virginia, presented a letter from the dean of the Medical Department of the University of Virginia requesting that the time of the annual sessions of the American Medical Association be arranged so as not to conflict with the final exercises of the medical colleges This was referred to the Committee on Rules and Order of Business

### Report on Traumatic and Industrial Hernia

Dr Southgate Leigh, Virginia, at the request of the Medical and Surgical Section of the American Railway Association, submitted a report to the House of Delegates for consideration and approval The Medical and Surgical Section of the American Railway Association is doing effective work in bringing about a better understanding between the railroads of the country and the various medical, surgical and health organizations

In pursuance of this policy, a special committee of the section, headed by Dr W B Coley, after exhaustive study and investigation, prepared a report on traumatic and industrial hernia This was referred to the Committee on Hygiene and Public Health

### Resolution on Education of Young Men and Women for Practice of Medicine

Dr Southgate Leigh, Virginia, introduced the following resolution, which was referred to the Reference Committee on Medical Education

In the education of young men and women for the practice of medicine the time consumed in grammar school, high school college and professional and hospital courses is so great that they are forced to begin their active work from two to four years later than in other callings

The Council on Medical Education as well as the outgoing President, has already given considerable time and attention to this matter

However, it is one of such serious and pressing importance that it should be taken up vigorously and effectively by this organization

It is suggested that through the initiative of the American Medical Association a commission be formed consisting of representatives from each of the departments of education mentioned whose duties shall be to make a study of the situation and outline a suitable plan for relief

### Resolution on Rules with Reference to Prescribing Liquor

Dr Southgate Leigh, Virginia, presented the following which was referred to the Committee on Legislation and Public Relations

The rules in reference to the prescribing of liquor for the sick seem to have been changed to such an extent that the state directors have no authority in permitting more than one pint in ten days in extreme cases

We recently wrote to the prohibition director of Virginia requesting a permit to prescribe more than a pint for a prominent citizen aged 86 who had been forced to buy whisky of uncertain quality to augment the amount permitted This was on account of his debilitated condition

We appealed to the director on humanitarian grounds, but the request was refused with the statement that under the *present rules* no such exception could be allowed

Feeling that this is a matter not of prohibition, but of common sense and humanity, we would urge that the American Medical Association go on record as favoring a revision of such drastic rules

### Resolution on Repeal of Certain Sections of National Prohibition Act

Dr Charles O'Donovan, Maryland, presented the following, which was referred to the Committee on Legislation and Public Relations

The following resolutions were adopted at the annual meeting of the Medical and Chirurgical Faculty of the State of Maryland, Baltimore, April 22 and as secretary I was directed to send a copy to you

*Because* They contain clauses that add to the suffering of the sick and also

*Because* They interfere with physicians in the legitimate practice of their profession be it

*Resolved* That Sections 7 8 and 9 Title II of the "National Prohibition Act' should be repealed and be it further

*Resolved,* That Section 2 of 'An Act Supplemental to the National Prohibition Act' should be repealed for the same reasons and be it further

*Resolved* That a copy of these resolutions be sent immediately by our Secretary to the Chairman of the Judiciary Committee of the House of Representatives in Congress and also presented by our Delegates to the American Medical Association at its coming meeting in Chicago in June

J A CHATARD Secretary

### Adjournment

Dr A T McCormack, Kentucky, moved that adjournment should be in honor of the memory of Louis McMurtry, for many years a member of the Board of Trustees, ex-President, and one of the Association's most honored members

Seconded and Carried

On motion, which was duly seconded and carried, the House of Delegates adjourned, to meet at 9 30 a m, Tuesday

## *Second Meeting—Tuesday Morning, June 10*

The House of Delegates was called to order at 9 35 by Speaker Warnshuis On motion of Dr McCormack, Kentucky, the roll-call was dispensed with The reading of the minutes of the previous day's meeting was dispensed with, on motion of Dr McCormack of Kentucky

The Committee on Credentials, through Dr Brook of Michigan, its chairman, reported 129 delegates registered up to that time

### The Gorgas Memorial

Dr Franklin H Martin spoke to the House on the Gorgas Memorial Dr Martin's paper was referred to the Reference Committee on Medical Education

### Report of Reference Committee on Amendments to Constitution

Dr Gerry Morgan, Washington, D C, presented the report of the Reference Committee on Amendments to Constitution and By-Laws, including amendments to Section 2, Chapter 7 of the By-Laws, and to Section 2, Article VI, of the Constitution, which was declared adopted The action taken on Section 2, Article VI, of the Constitution was reconsidered because of failure to be carried by three fourths of the registered members Pending a recent count of the registration, the matter was made a special order of business for 11 o'clock, when, on a roll-call, it was adopted by a vote of 99 to 22

### Resolution on the Work of William Whitford

On motion of Dr Lane, Connecticut, it was voted that a committee be appointed to prepare a resolution expressing appreciation for the work of Mr William Whitford, former reporter for the House of Delegates, now deceased

### Report of the Reference Committee on Legislation and Public Relations

Dr Pettit, Oregon, presented the report of the Reference Committee on Legislation and Public Relations, as follows

The Reference Committee on Legislation and Public Relations recommends that the House of Delegates approve the following resolutions

Recommendation No 8 of the Report of the Committee on Narcotic Drugs of the Council on Health and Public Instruction, submitted by the Council to the House of Delegates at the Boston session, 1921, and printed on page 19 of the proceedings of that session, as follows

8 Your committee desires to place on record its firm conviction that any method of treatment for narcotic drug addiction whether private institutional, official or governmental, which permits the addicted person to dose himself with the habit forming narcotic drugs placed in his hands for self administration, is an unsatisfactory treatment of addiction begets deception extends the abuse of habit forming narcotic drugs and causes an increase in crime Therefore, your committee recommends that the American Medical Association urge both federal and state governments to exert their full powers and authority to put an end to all manner of such so-called ambulatory methods of treatment of narcotic drug addiction whether practiced by the private physician or by the so-called 'narcotic clinic or dispensary

In the opinion of your committee the only proper and scientific method of treating narcotic drug addiction is under such conditions of control of both the addict and the drug that any administration of a habit forming narcotic drug must be by or under the direct personal authority of the physician with no chance of any distribution of the drug of addiction to others or opportunity for the same person to procure any of the drug from any source other than from the physician directly responsible for the addict s treatment

The resolution introduced by Dr George Edward Follansbee, Ohio

The resolution introduced by Dr Howard Fox, New York

The resolution introduced by Dr T C Chalmers, New York, with the elimination of the first clause (see p 1966)

The Committee on Legislation and Public Relations recommends that the following resolutions be not passed, because of the fact that the resolution introduced by Dr Chalmers, New York, covers the points completely, which resolution we have recommended for passage

The resolution introduced by Dr Charles O'Donovan, Maryland

The resolution introduced by Dr Southgate Leigh, Virginia

This report was adopted as presented

### Address of President Ray Lyman Wilbur

The Speaker introduced the President, Dr Ray Lyman Wilbur, who delivered the following address, which was referred to the Committee on Reports of Officers

*Mr Speaker, Delegates, and Trustees of the American Medical Association*

This past year has been a very pleasant one for me As President of this Association and last year as President-Elect I have had a return of that friendly, kindly professional feeling that you all know It is a great thing to be a member of an association like this, the member of a great profession There is a friendliness about it that I think transcends that of any other profession I can say quite frankly I have had a very pleasant and happy time, and I have enjoyed my associations with you men and other members of the profession Wherever I have gone in the United States, I have found a lot of fine medical men interested in the Association and in the affairs of the profession and in the welfare of their communities It has been a pleasure to see them because they have something that you do not find so often among other men, a certain unselfishness in their relationship to the public, and the public appreciates that Sometimes they take a rather awkward way of showing us that, but they really do

Now, I have been thinking a good deal during this year about the future of the medical profession, particularly in this country Great forces are stirring in every part of society I can illustrate the thing in my mind by giving you an illustration The telephone company has had in the United States an almost unparalleled advance, and except in a few local instances there has been no particular problem from the legal standpoint and the political standpoint in regard to the telephone It has extended its services everywhere It has kept its rates on a level so that anybody could use the telephone, and it has provided a great public service On the other hand, the railroads seem to be always in difficulties They do something similar on a more extensive scale to that which is done by the telephone It is largely a difference in the way the problem has been managed

Mr Theodore Vaile understood the public and was always ahead of the public in the things that the telephone could offer, always seeking new methods and putting them into effect The railroad presidents, on the other hand, are usually about ten years behind the times on many things they tackle They are always, consequently, in hot water, always up before bureaus for investigation and before Congress for study, and they are always fighting legislation, after they get it they stand for that and fight the next, and so on

Now, the question for the medical profession is, Which method are we going to adopt? Are we going to be up with the game or are we going to be ten years behind? Because we must study these great social processes that are going on and the relationship that the profession bears to them We can do it and I feel that we must

We get lost every once in a while on things that come along One of the greatest advantages in the United States of America is that we have forty-eight states Any state can try an experiment, and if it is a bad one it alone suffers If it is a good one, the others can profit by it So we have a chance with an organized profession in forty-eight states to try out various devices For the most part, the things that are being tried out are tried out on us instead of by us, because others are forcing our hands We have not kept the game in our control

The development of preventive medicine and of public health since the inauguration of the public health of today based on bacteriology has been of such a character that many have thought that the whole control of health should go over to the state Now, it seems to me there is a dividing line which can be made and that we ought to have a definite series of studies along that line The state is interested in the protection of individuals from contagious diseases It has a right and it is willing to spend sums of money for that purpose It seems to me that the state is not responsible for people who have resources of their own for their medical or surgical care There are necessarily certain services that must be rendered to the indigent, to the insane and to the prisoner It seems to me, too, that we must keep individualism in medicine if it is to advance, and we must keep individual relations between patients and physicians if medicine as an art is to go forward The minute we allow a bureaucracy to step in between the physician and the patient, it seems to me we have taken the one step that will degrade our profession and that will put us so that we cannot render ideal professional services to patients

Now I think that we ought gradually to get a definition in the minds of the public of what the taxpayers should pay for in health matters, and that we should at the same time have a clear understanding of what our responsibility is, and then meet that responsibility as we can do only by proper organization We have tried by a method of somewhat over standardization to handle medical education and some other medical affairs You cannot standardize the price or the cost of taking out tonsils, because it is not simply a mechanical operation One time you do it on a Chinese patient that cannot answer back or talk, and who does nothing but open his mouth and expectorate afterward The other time you do it on a child with a mother and father and uncle and aunt and so on whom you have to spend a great deal of time on In other words, since time is really the only thing a physician has to sell, he is the man that has to decide the individual responsibility he is taking in individual cases and the time consumed When we get too much standardization, even in the charges that are being demanded, it seems to me that again we are interfering with the individual

We can, though, develop a high sense of professional responsibility and a desire to play fair with the public and the other men in the profession, and I think that if you will analyze it carefully, you will admit that much of our success has been due to the fact that this has been the basis of medical association and medical organization

I think as I look over my experience of the past year in the different groups to whom I have talked that the time is ripe for a considerable change in medical practice I think we are going to accomplish something in medical education and prepare men somewhat better for medical practice than we have, because we are doing more to emphasize the clinical I think we are beginning to train our students more to really take care of the sick than simply to diagnose the sick as they have been inclined to do in the past But it seems to me that with the change in the type of illness, with the development of office practice, with the great social changes that are going on now so that people are flocking to the cities and leaving the country, and with the development of the hospital, we have a whole series of problems to work out among ourselves Now, to me the rural practitioner problem is not one that we can solve It is a great social question, this transfer of people from the farms to the cities, it comes with more machinery, with better roads, with gasoline and all that sort of thing, with the changed attitudes of people, with the desire to get more education for the children, and so on If you will study the population curves, you will see that people are going into the cities from the country, and right now we are having an overproduction on the part of the farms, that to me can be solved only by a million or more farmers moving into the city and going into industry, because we have overproduction on the farms

With these things in mind, it is evident that the profession cannot solve this problem by sending out a few more rural physicians What they can do and should do is to provide competent, thoroughly trained men who will consider medicine a life of study, so that they can keep up with the great mass of information that is being gathered and is gathered every day, for in the long run our problem is simply this Medicine in the last thirty years has gathered together a fund of information which, if it could be directly applied to the benefit of every individual, would prolong life and happiness, and change the whole current of human thought and life The fund of information is available We stand between that information and the public It is our problem to provide for its distribution If we make those provisions wisely, if we meet the situation, then we shall retain the mastery, if we

fail, general education has reached such a level that others will begin to demand that there be a distribution of this information available to the human race, and we shall lose our position of mastery I have confidence that we shall maintain it

### Report of Reference Committee on Miscellaneous Business

Dr H P Beirne, Illinois, presented the report of the Reference Committee on Miscellaneous Business, as follows

Resolution introduced by Dr Eagleton of New Jersey

*Resolved* That the delegates of the Medical Society of the State of New Jersey be instructed to use their influence and votes to (1) dissociate the Editorship and General Management of this Association, on the retirement of Dr Simmons placing the editorship entirely separate from the general management of the Association so that the editor may devote his entire time to the scientific and ethical aspects of the profession And that they use their influence and votes to (2) obtain an ad interim meeting of the House of Delegates at the headquarters of the Association annually, as it is impossible for the House of Delegates to do their full duty by the Association by having a meeting but once a year

The committee concurs in the resolution so far as it separates the office of Editor and General Manager on the retirement of Dr Simmons, subject to the approval of the Board of Trustees On the matter of obtaining an ad interim meeting of the House of Delegates, your committee feels that this question is covered on page 8, Constitution and By-Laws, Section 2, which says

SPECIAL SESSIONS —Special sessions of the House of Delegates shall be called by the Speaker, on written request of twenty five or more delegates representing one third or more of the constituent associations, or on request of a majority of the Board of Trustees

Since the ad interim meeting question is covered as stated above, your committee does not concur in this part of the resolution

This was adopted

### Report of Reference Committee on Sections and Section Work

Dr Isaac A Abt, Illinois, chairman of the Reference Committee on Sections and Section Work, presented the committee report as follows

The committee met and considered the one question referred to it, which is in reference to the formation of a new section on radiology

It was moved and carried that this committee feels in sympathy with the substance of this resolution and recommends that it be referred to the Council on Scientific Assembly for action

This was adopted

### Report of Reference Committee on Reports of Officers

Dr Holman Taylor, Texas, presented the report of the Reference Committee on Reports of Officers, as follows

#### I ADDRESS OF THE SPEAKER OF THE HOUSE OF DELEGATES

1 We recommend that the following be adopted "That the House of Delegates establish the precedent of going into a 'Committee of the Whole' for an hour or longer, if necessary, on the second day of our annual session and also on Wednesday or Thursday of the week of our session, as your deliberations may deem expedient"

2 We approve the following "It is recommended that the privilege of the floor of the House be extended to these executive officers for a period of five or ten minutes to present brief abstracts of the work that is being accomplished while the annual report of each Council or Bureau is being presented"

#### II ADDRESS OF THE PRESIDENT-ELECT

1 The committee recognizes the difficulties of the nursing problem as presented by the President-Elect, and is in hearty sympathy with his purpose in bringing the matter before the House of Delegates In view, however, of the questions involved and of the impossibility of examining the subject adequately in the time at the committee's disposal, we respectfully advise that this section be referred to the Council on Medical Education and Hospitals

2 We endorse in principle the discussion by the President-Elect of the perplexing affairs of medical education Realizing, as we do, that a proper consideration of the suggestions will require an exhaustive study, your committee begs leave to ask that this be referred also to the Council on Medical Education and Hospitals, with the suggestion that the Council investigate the matter in the light of the excellent address of the President-Elect

#### III REPORT OF THE JUDICIAL COUNCIL

1 We approve the attitude of the Council as set forth in the first section relating to such matters of organized medicine as may come before it

2 We approve the conclusions recommended in regard to fee splitting, and desire to quote the following paragraph containing the conclusions of the Council on this important matter

'The Council suggests that, when a county society is found to enroll so many fee splitting, or otherwise unethical, members as to render it impossible for that society to enforce the ethical standards of the medical profession, in accordance with the laws of our medical organizations it then becomes the duty of the state councilor, whose district embraces such society, to bring the situation before his state board of councilors and have the charter of such recalcitrant society annulled and in its place to have reissued a new county society charter, in the name of well known ethical physicians of such county, in order that a society with ethical standards may be organized and maintained"

3 The committee believes that under no circumstances should a regular physician engage in consultation with a cultist of any description

4 In respect to membership contingent on the payment of large assessments, it is conceived that a well meaning member may be excluded unjustly by inordinate demands A member so excluded should and does have the right of appeal to the state council for relief, and then in turn to the Judicial Council of the American Medical Association

5 We agree in the recommendation of the Council concerning the amendment to the By-Laws calling for the insertion at the end of the sixth line of Section 3, Chapter XI, the words "or, after long and honorable service, under the provisions of an Act of Congress"

The committee would advise the insertion of the words "or claims to follow" after the word "follows" in the paragraph defining "Sectarian"

We concur in the definition of "Physician," and recommend its adoption

All of the report was adopted, with the exception of the portion recommending that under no circumstances should a regular physician engage in consultation with a cultists of any description, which was rejected

### Report of the Reference Committee on Medical Education and Hospitals

The report of the Reference Committee on Medical Education and Hospitals was presented by Dr F B Lund, Massachusetts, as follows

Your committee notes with satisfaction the fact that, though the total number of medical schools in the country has been reduced from 160 to eighty, the number of higher standard and better equipped schools has risen from two to seventy-four, sixty-three of which are integral parts of universities—a truly remarkable showing The student enrolment, which had been reduced during the drastic but necessary period of house cleaning, had fallen from about 28,000 in 1909 to 12,930 in 1919, and has been rapidly increasing, until, in 1923-1924, 17,808 students are enrolled, 93 3 per cent of whom are in institutions which have the higher entrance standard This is very satisfactory

A glance at the chart opposite page 80 will show that the present increase in the number of better qualified graduates is going on so rapidly that before long there will be no question of a shortage of medical graduates At the present time there is one physician in the United States to 724 inhabitants, against one to 1 087 in the British Isles The improvement in the qualifications of the graduates has had most gratifying results In one of our Southern states in 1915, out of thirty-six applicants for registration, only eleven could be accepted Last year, as a direct result of the raising of

the school standards, 100 per cent of the graduates passed the examination and secured their licenses One result of the raising of the standards has been that, on account of the length of the course, graduates in medicine are often unable to begin practice before the age of 28, which puts them at a disadvantage in comparison with young men entering other lines of work

Another result that has been attributed to the raising of the standards is the unequal distribution of the physicians between the city and the country, considerable areas of the rural districts in many parts of the country being at present inadequately provided with medical service This condition is said to be due to the fact that the medical student, having incurred a high expense for his training, is unable to make enough money in the country to go there and live and, therefore, flocks to the city

The chief reason that men move to larger places, however, is that they do not want to subject themselves and their families to the hardships of life in districts without adequate sanitation, conveniences, schools for their children, churches, human intercourse, and the other amenities of civilized existence As stated in this report, this condition is being constantly and greatly alleviated by improvement in means of transportation, good roads, automobiles, etc, which have enabled the physician to attend to a practice extending over a much larger area than formerly Shall we attempt to cure this condition, which is not in the first place due to the raising of the standards of medical education, by the dangerous, the humiliating, the suicidal method of lowering the standards, which we have so painfully raised by years of hard struggle and intelligent, conscientious work? Your committee believes that the answer of the Association to this question will be No! The benefits that are constantly accruing to the public from the services of properly trained physicians are too great to be sacrificed We have made it possible for our young practitioners to become learned and efficient men who know, so far as it is humanly possible, what they are doing Shall we open the door to mediocrity, ignorance and carelessness, and abandon our hard won heritage? Your committee hopes not The advanced age at which students go to work is a real difficulty, but the lowering of the standards of medical education is not the way to meet it By a speeding up in the work of our grammar and high schools, it is perfectly possible for a boy to be ready for his college years at 17 instead of 19, and get ready to practice at 26, instead of 28 The high school authorities are already thoroughly alive to this, as is shown by the fact that the average age of graduation in medicine in 1922 was 27 8 years On the other hand, there has been a noticed tendency on the part of one or two of the universities to raise the requirement from two to four years To any further raising of the standard your committee is opposed, because if the requirements are made too stringent and the length of medical education is made too great, it will be difficult for the graduate and will be even more difficult to get graduates to go to rural districts

The Council on Medical Education and Hospitals is conferring with the authorities of our universities and high schools to bring about the speeding up of secondary education The authorities of the University of Chicago and elsewhere are in sympathetic cooperation, and your committee would urge the Council to spare no effort in bringing about this, which it believes to be the real solution of the problem

In this connection, it should be remembered that there are certain reasons that will always operate to make medical education take no longer than the business and engineering professions A man ought to be more mature before he takes the responsibility for the physical, let alone the mental and moral, welfare of the human machine It is certainly more complicated and delicate than an engine or a bridge, and touches life at more points, so to speak Again, we believe that rural communities would not be satisfied with partially trained men, and as soon as it was learned that there were better physicians in the larger communities, the farmer would get into his Ford and go to consult them So that even this short cut to the supply of the rural districts, made at so great a sacrifice of right, honor, principle and public safety, would be inefficient after all, and the real humiliation of seeing our great Association recant all it has said about high standards and devotion to the real welfare of the public would have been suffered in vain The real problems of how to get the benefit of trained men for the rural districts has not been solved. The committee appreciates, however, the continued efforts of the Council to solve this problem, and hopes that the Association will give it every encouragement to continue their labors along the present lines Whatever this remedy may be, we do not believe it lies in the lowering of the standards of medical education The committee, also, approves of the welfare which the Council is making on the cults, which are still a serious menace and which can be efficiently met only by the present methods of educating the public to their real nature and danger

Respectfully submitted,

THOMAS S CULLEN
J A WITHERSPOON
JOSEPH RILUS EASTMAN
WILLIAM H MAYER
FRED B LUND, Chairman

This was adopted

### Report of the Committee of the Whole

The House went into Committee of the Whole to discuss the supplemental report of the Judicial Council The following resolutions were adopted

*Resolved*, That the Committee of the Whole recommends to the House of Delegates that the practice outlined in the supplementary report of the Judicial Council be condemned as against the best interests of the public, and be it further

*Resolved*, That the Judicial Council be instructed to carry on an educational campaign in conjunction with the state societies and to cooperate with other councils and bureaus of the American Medical Association in the promotion of periodic health examinations by family physicians

### Report of Reference Committee on Hygiene and Public Health

The report of the Reference Committee on Hygiene and Public Health was presented by the chairman, Dr J W Kerr, as follows

Your Reference Committee on Hygiene and Public Health respectfully submits the following report

The telegram of Dr W E Musgrave addressed to the Speaker of the House of Delegates urges the adoption of a resolution by the House commending medical examinations in the promotion of health With this end in view, your committee has prepared the following resolution, and recommends its adoption

WHEREAS, Periodic medical examinations of all the people from birth to death are of great importance in the promotion of health, therefore be it

*Resolved*, That state and county medical societies be urged to endorse as a part of the health program of organized medicine the making of these examinations

That the members of the respective societies be requested to make such examinations in the homes or in their offices, free to any persons who by reason of economic conditions, require such favorable consideration, and

That in the performance of the work the same sympathetic confidential relation be maintained betwen physician and patient or family as has ever characterized the efforts of true physicians

Your committee commends the objects and activities embodied in the report of the committee from the Section on Laryngology, Otology and Rhinology relating to the hygiene of swimming, and recommends that the approval of the House of Delegates be granted for the continuation of the work and that the facilities of the Association be made available for the purpose of giving publicity to the matter

Your committee has considered the resolution presented by Dr Charles E Mongan on behalf of the Section on Obstetrics, Gynecology and Abdominal Surgery of the Massachusetts Medical Society, which has for its object the securing of greater uniformity and clarity in the recording and analyzing of statistics of deaths incident to childbirth Your committee respectfully recommends that this resolution be referred to the Board of Trustees with the request that the board inquire into the methods of recording and analyzing statistics of death incident

to childbirth, and to take such action as may be necessary to make them represent truly the mortality from this cause

This was adopted

### Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr E Elliot Harris, New York, submitted the report of the Reference Committee on the Reports of the Board of Trustees and the Secretary, as follows

REPORT OF BOARD OF TRUSTEES

The House of Delegates may best appreciate the immensity of the task of our Board of Trustees by careful consideration of the auditor's report of the finances of the organization The successful administration of the business of this Association, with an annual financial turnover of more than a million dollars, is worthy of the gratitude of the entire Association The character of the work of the Board is exemplified throughout its report It indicates in but a small way the degree of personal sacrifice and effort so willingly given by the individual members of the Board of Trustees

SPECIAL JOURNALS

We recommend the continuance of the publication of all the special journals issued by the Association, and note with pleasure that, while certain journals are published at a loss this year's report indicates a slight profit of $3,474 We recommend on the part of the members of the Association individual effort to extend the circulation of these journals

SPANISH EDITION

As the Spanish Edition of THE JOURNAL represents American medicine in foreign countries, we consider it well worthy of continuance, in spite of the fact that it is published at an annual financial loss

QUARTERLY CUMULATIVE INDEX

The continued publication of the INDEX is recommended and its inestimable value to medical science is noted

HYGEIA

For years, the members of the American Medical Association have sought a means of conveying to the lay public news concerning the best efforts of our organization in behalf of preventive medicine The members of our Association have for years wished for a publication that might be circulated among laymen, contrasting in its columns in a dignified manner the efforts of organized medicine to improve public health, as compared with the practices adopted by cults and quacks Such a publication was inaugurated by the Association in 1922, and, despite the splendid results attained by its editorial board and the great energy expended in attempting to extend its circulation, we note with regret that but approximately fourteen thousand physicians have to date availed themselves, by subscription of the opportunity to place this magazine in the hands of lay readers We advise the House of Delegates to authorize a definite appeal through its Secretary to the constituent and component societies in behalf of the extension of the subscription lists of this most useful publication

SCIENTIFIC RESEARCH

We approve the money grants of the Board authorized under the Committee on Scientific Research, and recommend continued liberality in support of the great work of the approved research organizations

PROPAGANDA DEPARTMENT

The Propaganda Department is commended for its activities during the past year, and the individual members of the Association are advised to aid the efforts of this department by circulating its reprints and supporting, by subscription, the continued publication of "Nostrums and Quackery"

COOPERATIVE MEDICAL ADVERTISING BUREAU

In 1921, a similar reference committee of the House of Delegates, commenting on the report of the Board of Trustees regarding the activities of the Cooperative Medical Advertising Bureau, reported as follows

> The usefulness of the Cooperative Medical Advertising Bureau evidently becomes greater from year to year and it is commended as the best means of keeping the advertisements in the state journals on a common high plane This bureau now represents all the state journals except one, and it seems unfortunate that a single exception should exist

This year we note in the Report of the Board of Trustees the following regarding this bureau

> In 1923, the *New Orleans Medical and Surgical Journal* became affiliated with the bureau There are now in the bureau thirty state journals —all but that of Illinois, representing thirty seven state associations

We sincerely hope that the journal of the great medical society of the state of Illinois may soon be alined with all the other state journals in support of the Cooperative Medical Advertising Bureau of the American Medical Association

PERIODIC EXAMINATION OF THE APPARENTLY HEALTHY

Employers of labor, life insurance companies, laymen and laywomen are constantly turning to commercialized organizations for systematized physical examinations Practitioners of medicine have frequently been indifferent to the public demand for periodic examinations The American Medical Association has given much in time and effort to stimulate wider interest in this project among its members The ultimate outcome rests largely with individual physicians The family physician should continue as the most important factor in the prevention of sickness The committee recommends that the efforts of the Board of Trustees and of the constituent associations and component societies in the promotion of periodic health examinations be continued

THE BUREAU OF HEALTH AND PUBLIC INSTRUCTION

Component societies should constantly call on this bureau for material assistance in their efforts to educate the public in the methods of preventing disease and injury We urge the House of Delegates to advise all such societies to create committees or commissions that will properly relate these medical societies to laymen and lay organizations seeking information regarding public health and hygiene

SCIENTIFIC EXHIBIT

We heartily approve of increased expenditure, if necessary, in behalf of the annual scientific exhibit, and urge the cooperactive effort of the Scientific Assembly in the continued growth of this most important feature of the annual session of the Association We especially commend the enlarged means provided for education and training in diagnosis afforded to visiting members We recommend that the Board of Trustees favorably consider offering to the constituent associations every facility for improving the educational features of the scientific exhibit in connection with the annual sessions of the various state associations, having in mind especially the development of the moving picture theater plan for such meetings

FIELD SECRETARY

We advise the adoption of the recommendation of the Board of Trustees abolishing the unfilled office of Field Secretary and the creation by the Board of Trustees in the office of the Secretary of the Association of an organization designed to administer many of the functions originally approved by the House of Delegates for field work We believe that the members of this House should welcome this opportunity to approve a plan which will in time enable Secretary West to bring personally to every constituent association the assistance he is so splendidly qualified by education, experience and character to give

EXTENSION GRADUATE MEDICAL EDUCATION

Your committee shares the opinion of the Board of Trustees that it is the main purpose of this Association to promote the professional advancement of all its members at or near their home locations We trust that the House will encourage the Board in the expenditure of any reasonable amount of money necessary thus to develop the original purpose of the Association in this most important field work

THE BUREAU OF LEGAL MEDICINE AND LEGISLATION

We note with gratifying interest evidences of the development of the bureau as administered by Secretary Woodward

NARCOTICS

We regret the failure of efforts to bring about a reduction of the war tax imposed under the Harrison Narcotic Law to a peace-time basis, which, as it stands, is in effect an occupational tax exacting from the medical profession a large part of the expenses required to police the nation against the activities of an element of the underworld We urge continued efforts on the part of the bureau in its commendable efforts to obtain justice for the medical profession regarding this tax

INCOME TAX

We recommend that the Board of Trustees continue the efforts already begun to procure for physicians the right to deduct traveling expenses and the expenses of postgraduate study in the computation of their federal income taxes

DEFENSE OF MALPRACTICE SUITS

We recommend continued and careful study of the proposed plan for the introduction of medical defense of malpractice suits with a view to determining what assistance can best be afforded by the central bureau to the several state associations maintaining or planning for medical defense services

MEDICAL PRACTICE ACTS

We urge that energetic action be taken to develop as promptly as possible the draft of a model medical practice act after which states may pattern their own laws so far as may be practicable This should be done, if possible, in time to permit the use of the proposed draft by state associations desiring to procure legislation at the coming sessions of the state legislatures, commencing in January next

LYE

We heartily commend to the House the splendid results attained by the Committee on Lye Legislation, under the leadership of Dr Chevalier Jackson We recommend that the committee be authorized to continue its efforts, and that all possible aid be extended to it

CONTROL OF CLINICAL LABORATORIES

We recommend that the House adopt the report of the joint committee of the American Medical Association, the American Chemical Society and the American Association of Pathologists and Bacteriologists on the control of clinical laboratories, which reads as follows

REPORT OF JOINT COMMITTEE

In proposing the following specific recommendations concerning the regulation of clinical laboratories, the joint committee of the American Medical Association, the American Chemical Society and the American Association of Pathologists and Bacteriologists wishes to emphasize the importance of encouraging and insuring the adequate education of every laboratory worker in the fundamental sciences which he applies A clinical laboratory, as that term is used by the committee, is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment and methods for the purpose of ascertaining the presence, progress and source of disease

It is the unanimous judgment of the committee

1 That it should be illegal for any person not licensed by law so to do, to assume the responsibility of making the diagnosis or of deciding on the progress or source of disease on the basis of any results of a chemical, pathological, serologic, bacteriologic, radiologic or microscopic observation or other laboratory examinations undertaken, and that where laws do not now restrict diagnosis or the clinical interpretation of laboratory examinations to licensed classes of medical practitioners, laws should be enacted to effect that end

2 That any law providing for the licensing of professional workers in laboratories devoted to ascertaining the presence, progress or source of disease should provide for the examination of members of each profession by competent authorities belonging to the same profession

3 That as long as an organization or individual engaged in examinations to ascertain the presence, source or progress of disease refrains from all diagnostic and prognostic interpretation of the results of such laboratory tests as provided for in Paragraph 1, any effort to force such organization or individual to place itself under the direction of a representative of any other profession is to be deprecated

4 That the American Chemical Society, the American Medical Association, and the American Association of Pathologists and Bacteriologists should cooperate to establish the principles enumerated in the foregoing resolution whenever legislation in this field may be proposed, and that the cooperation of other national bodies should be solicited

5 That clinical laboratories be standardized in accordance with the principles laid down in the preceding paragraphs, and legislation should be enacted to insure competent personnel and suitable equipment

We recommend that the committee of the American Medical Association appointed to undertake the investigation of clinical laboratories with a view to securing responsible and proper supervision of them and adequate equipment and facilities for this branch of medical work be continued

INDIAN SERVICE

We recommend that the American Medical Association cooperate with the Secretary of the Interior in his efforts to procure adequate compensation and improved working conditions for physicians in the Indian service

PATENT AND QUACK MEDICINES

We recommend continued effort to procure appropriate administration of the patent and trade-mark laws, and the amendment of those laws, if necessary, in order that the public may be protected from exploitation through the use of patents and trade-marks in the sale of nostrums

DEFENSE OF MEDICAL RESEARCH

We welcome the entrance of an organization of laymen in the protection of public health through the defense of medical research The Society of Friends of Medical Progress, Incorporated, should be encouraged in its efforts by the Association and through the support of individual members

We especially congratulate the Board of Trustees on the results attained by the completion of the Association's magnificent building in Chicago The centralization of publishing and administrative activities is most efficiently provided for We commend to the members of the House the acceptance of the invitation of the home office management to inspect throughout the headquarters building.

We note with extreme satisfaction the well developed plan of the Board of Trustees to retain for the Association the wise counsel of Dr George H Simmons We trust that his services as Manager and Editor Emeritus may be retained by this Association through many years to come We recommend its adoption

E ELLIOT HARRIS, Chairman
IRVIN ABELL,
SOUTHGATE LEIGH,
WALTER F DONALDSON, Secretary

SECRETARY'S REPORT

We note with gratification the increase for the year in the number of members and Fellows of the Association We recommend that the House cooperate with the Secretary in his efforts to increase the number of Fellows Members of the House may assist materially by conveying to others a more complete understanding of the requirements for Fellowship The Secretary's report emphasizes the value to medical organization of the employment by constituent societies of full-time secretaries We recommend the approval of the suggestion In societies financially unable to employ such an officer, we urge that the existing part time secretary be given such facilities in the form of separate office space, equipment and assistants as will tend specifically to serve the best interests of the state association and its component societies In many constituent societies the annual dues should be increased to provide for better secretarial service

COUNCILOR DISTRICTS

We share the opinion of Secretary West regarding the underlying reasons for the recorded presence of too many moribund county medical societies Their continued existence is a direct challenge to increased energy on the part of many state councilors The organization of councilor district societies would in many instances undoubtedly result in renewed activities in component societies and tend to discourage the organization of independent local societies

CONSTITUTION AND BY-LAWS OF STATE ASSOCIATIONS AND COUNTY SOCIETIES

On pages 31 and 32 of the Handbook of the House of Delegates, the Secretary discusses exhaustively the advisability of seeking the adoption of a reconstructed constitution and

by-laws for state associations and for county societies as well Your committee recommends that a special committee of three be appointed, of which the secretary should be chairman, for the purpose of investigating and submitting the recommendations to the House of Delegates at its next annual session, regarding the revised constitutions and by-laws for constituent state associations and component societies

RELATIONS WITH OTHER NATIONAL MEDICAL ASSOCIATIONS

We recommend that the House authorize the appointment of duly accredited delegates by the President to the annual meetings of other national medical associations considered by the President as being worthy of being more closely related to our own organization

THE AMERICAN MEDICAL ASSOCIATION BULLETIN

We appreciate the great value of the BULLETIN to organized medicine in this country, and advise that it be sent, as during the past year, to all Fellows of the Association free of charge We urge members and officers of the constituent associations and component societies to contribute to the BULLETIN

ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT STATE ASSOCIATIONS

The annual conference of secretaries of state associations, held in Chicago, should be continued and the various constituent associations are urged to insist on the attendance of their respective secretaries The expense to the Association of conducting this annual conference is undoubtedly a good investment

We approve the request of the Secretary of the Washington Academy of Sciences, page 34, and recommend its adoption

OFFICIAL VISITS

We commend the President, President-Elect, Editor and General Manager, members of the Board of Trustees, Speaker of the House, heads of departments and the Secretary for their official visits to meetings of state, district and county societies during the past year We trust that the House fully recognize the value of such visits and encourage their continuation

Your committee commends to the fullest the activities of the office of the Secretary of the Association during the past year, and solicits on behalf of the Secretary the closest possible cooperation of the secretaries of the constituent state societies

E ELLIOT HARRIS, New York, Chairman
SOUTHGATE LEIGH, Virginia
W A DONALDSON, Pennsylvania
IRVIN ABELL, Kentucky

This was passed

### Report of the Reference Committee on Amendments to the Constitution and By-Laws

Dr William Gerry Morgan, chairman, presented a supplemental report of the Committee on Amendments to the Constitution and By-Laws, as follows

Your committee, to which was referred the proposed amendment to Section 2, Chapter 7, of the By-Laws by Dr Gerry Morgan, Washington, D C, begs leave to report as follows

We recommend that Section 2, Chapter 7, of the By-Laws be amended by striking out all the words in this section after the word "vote" at the end of the eighth line, that is, the following words

The House of Delegates may recall the election of any officer or appointment of any member of a Committee or Council at any session by two-thirds vote of the members of the House of Delegates, present and voting provided that no motion for recall shall be acted on until the day following that on which it is introduced

Reasons The matter is impossible under any circumstances, as there is no provision for recalling an elected officer So far as it concerns the recall of an appointee of the House, the paragraph is superfluous inasmuch as any appointee or committee may be discharged

Your committee recommends the adoption of the following to amend Chapter II of the By-Laws by renumbering Sections 2, 3 and 4 to 3, 4 and 5 and to add an entirely new section to be known as Section 2, which shall read as follows

SECTION 2—During the annual presentation of the report of each Council, or Bureau, the privilege of the floor of the House of Delegates for a period of five minutes shall be extended to each Bureau Head and Council Secretary

The report was adopted

Under new business, Dr McLean, Pennsylvania, reported a resolution concerning the practice of medicine for definite compensation by day, month or year, which was referred to the Judicial Council He also presented a resolution on unprofessional prescribing of alcoholic liquors, which was referred to the Reference Committee on Legislation and Public Relations

Dr Arthur W Booth, New York, presented a resolution prepared by Dr Kevin, New York, on periodic medical examinations, which was referred to the Reference Committee on Hygiene and Public Health

Dr Edwards, California, presented a resolution concerning the preparation of a digest of malpractice suits to be sent to the attorneys of the constituent associations The resolution was referred to the Reference Committee on Legislation and Public Relations

Communications were presented by the Secretary and referred to the proper Reference Committees

The House adjourned at 5 30 p m, to meet at 2 p m, Thursday, June 12

*(To be continued)*

# THE OPENING GENERAL MEETING

## Tuesday Evening, June 10

The Opening General Meeting of the Association was held at the Auditorium Theater, and was called to order at 8 p m An invocation was rendered by Rev James T Stone Following this invocation, the President, Dr Ray Lyman Wilbur, introduced the mayor of Chicago, Hon William E Dever, who welcomed the Association to the city, pointing out that science has done much for Chicago and that the time is ripe for scientific men to enter into public affairs and to give advice to politicians on the conduct of those civic departments in which science is especially demanded He concluded by offering to give to the physicians the keys of the city, particularly to those places which have not been closed up, and stated his view that physicians would not have wish to enter into such places in any event President Wilbur next introduced the President of the Illinois State Medical Society, Dr L C Taylor Dr Taylor called attention to the advance in the progress of medical science from the days when the physician rode with his handbag and dispensed pills to the country community, to the present time when, in Illinois alone, there are nearly 11,000 physicians rendering service to the people of the state On behalf of the Illinois State Medical Society, he extended a welcome to the visiting physicians

Dr Archibald Church, president of the Chicago Medical Society, called attention to the great advantages of Chicago as a place for the annual session and, incidentally, with sly humor, noted the deficiencies of other American cities, so much so that Dr Ray Lyman Wilbur suggested that Dr Church might be suitably a citizen of either California or Florida

Dr J W Van Derslice, chairman of the Local Committee on Arrangements, made announcements concerning the entertainments for the remaining days of the session, and called attention particularly to the registration of the first two days—over five thousand—representing the largest registration ever reached in a similar period

Following the announcements by Dr Van Derslice, Dr Wilbur introduced Dr Frank Billings, who then introduced to the assembly Dr Charles Regaud of Paris, a member of the Pasteur Institute, also Dr Louise Martindale of London, delegate to the Section on Obstetrics, Gynecology and Abdominal Surgery

The President, Dr Wilbur, then introduced to the audience the President-Elect, Dr William Allen Pusey, who made his presidental address (this issue, page 1905)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 14, 1924

## DRUG ADDICTION IN THE UNITED STATES

While it is probably impossible to estimate accurately the number of drug addicts in the United States, the assertion of Kolb and Du Mez[1] that the number is approximately 110,000 at this time, and that it has apparently been decreasing steadily since 1900, seems fairly well established This estimate is much lower than other recent estimates, as, for example, that circulated broadcast by the International Narcotic Education Association, Incorporated, of Los Angeles, which placed the number of heroin addicts alone as high as 1,000,000

It is obviously impossible to give the exact count of persons addicted to narcotics in this country, because of the social and legal factors that tend to make addiction a secret practice In arriving at such reassuring figures in comparison with the prevailing idea of the extent of addiction, the Public Health Service investigators have analyzed the more important recent narcotic surveys and reports of the Bureau of Internal Revenue, and have made use of all other available information Among the data that they considered may be mentioned a survey made in Tennessee in 1915 by the Pure Foods and Drugs Commission, the report of a committee appointed by the Secretary of the Treasury in 1918, which made a comprehensive investigation, data furnished by five year records kept in Pennsylvania, army findings, clinical reports, and, finally, estimates based on the average dosage and the maximum number of addicts that could be provided for from the available supply of narcotics

Several factors have influenced the trend of addiction in this country since 1900, at which time the authors estimate that there may have been 264,000 addicts The important factors are the available supply of the drug, the attention given to the problem by physicians, and restrictive laws and their enforcement The Food and Drugs Act of 1906, requiring manufacturers to state on the label the amount of cocain, opium and opium alkaloids or derivatives contained in their preparations, in addition to other benefits, did away with numerous opium cures that contained opium or some derivative as the chief ingredient It is believed that during the last six years the decrease in addiction has closely paralleled the decrease in available narcotics

The drug used also has changed in recent years Before the enactment of restrictive laws in this country, there was considerable opium smoking and addiction to gum opium and laudanum, but today those addicts have changed to more convenient and more readily available forms, and use the alkaloids or their derivatives almost exclusively Opium smoking is now rare in the United States, but former smokers now taking opium or heroin are occasionally found

Some other interesting facts are brought out in the report, for example, the greater number of addicts in prison at present as compared with former years is believed to be due to law enforcement and not to an increase in this class of individuals, and the proportion of the delinquent type of addict found to be increasing is believed to be due to the gradual elimination of the usual types

If this very conservative estimate of 110,000 addicts for the entire country is true, and presumably it should be, and if the trend of addiction is as shown by these investigators, these facts constitute a cause for congratulation The data presented apparently indicate that drug addiction in the United States will progressively decline and, eventually, cease to be a serious problem, provided, of course, restrictive measures continue to be enforced

In this connection, attention may be called to the request of the International Narcotic Education Association, Incorporated, that Congress print as a public document 50,000,000 copies of the association's leaflet, "The Peril of Narcotics—a Warning to the People of America" The federal Narcotics Control Board, to which the matter was referred by the Senate Committee on Printing, points out that the leaflet is based on the entirely erroneous premise that "the growth of narcotic addiction in the United States and the world over is the most alarming symptom of the New Century", that the statements made with regard to the per capita consumption of narcotics in the United States as compared with other countries are based on figures published seven years ago and do not in any way show present conditions, that the statements with regard to the prevalence of narcotic addiction among school children are untrue and are such as would tend to create popular hysteria, and that the assertions that one-fourth grain of heroin will cause addiction in a child and that one ounce will make 2,000 addicts are beyond comprehension The article estimates the number of addicts in the United States at one and three-fourths million, and the board points out that a recent survey made by the narcotic officers throughout the United States shows that the number is well within the half million mark

1 Kolb, Lawrence, and Du Mez, A G The Prevalence and Trend of Drug Addiction in the United States and Factors Influencing It, Pub Health Rep **39** 1179 (May 23) 1924

Unfortunately, this is not the first instance in which the International Narcotic Education Association, Incorporated, has undertaken to disseminate false and misleading statements concerning narcotic addiction In a recent statement, it alleged that a representative of the American Medical Association had testified before a congressional committee that heroin addicts in the United States numbered 1,000,000, whereas the stenographic report shows that he made no such estimate Even earlier, figures were published to show that in 54 6 per cent of all cases the origin of the drug habit is frequent prescriptions or treatments personally administered, no reference was made to the fact that the percentage stated was based on interviews with a relatively small group of addicts, in a Southern city of approximately 58,000 inhabitants, before the enactment of the Harrison Narcotic Law

On the whole, the International Narcotic Education Association, Incorporated, seems to be in need of information and education before it can qualify as a teacher for the world at large The physicians whose names appear on its advisory council will do well to see that it procures such information and education before proceeding further with its self-imposed task Unless they can do that, it seems of doubtful wisdom for them to continue to lend the influence of their names and reputations to the propaganda of the organization

The contrast between propaganda statements of the character of the leaflet referred to and the calm, scientific report of the officials of the United States Public Health Service is a striking one Confidence of the public in work for the public health is more likely to be sustained by the publication of accurate statements of fact than by unwarranted and exaggerated warnings concerning conditions that do not exist

## BERIBERI AND RICE

Tropical beriberi has been shown in recent years to be the sequel of a diet in which decorticated rice is the principal element There is no want of circumstantial evidence to suggest that, in the tropics, when highly polished rice is eaten almost exclusively, beriberi appears, and that beriberi seldom or never occurs when unpolished rice is the staple diet Although this etiologic doctrine has been widely accepted, investigators occasionally bring forth new evidence indicating that there is some other and as yet unknown factor that enters into the cause of this disease McCarrison,[1] who recently returned from India, has published the results of a five year study of this problem

Beriberi is not widely distributed in India, although millions of people live in regions where rice is widely cultivated Endemic beriberi is limited to a narrow coastal region in the northeast part of the Madras presidency, and to a few smaller circumscribed areas There is a strip of territory on the west coast of India in the same latitude, with a larger gross cultivated area under rice, and a relatively equal number of modern rice mills Beriberi is wholly unknown in the western region, but it has been endemic in the eastern coastal area for many years According to the author, if beriberi is so closely related to the consumption of decorticated rice, it should be as common on the west coast of Bombay as it is on the northeast coast of Madras Rice has been milled by machinery only in recent years in these districts, but, in spite of the present large number of rice mills, beriberi has enlarged its endemic haunts little, if at all Malcolmson mapped out these endemic areas eighty-nine years ago almost precisely as McCarrison maps them today Beriberi therefore existed long before rice machines were introduced, and it prevails today, although to a less degree, in country districts where people still pound their rice Among 12,500 cases of beriberi reported from the northeast coast of Madras in the last five years, more than 2,000 were in country districts where pounded rice is generally used

Contrary to a common opinion, Mohammedans suffer more from beriberi than Hindus in the endemic areas, although Hindus restrict themselves much more to rice Pariahs, who eat anything, suffer most in the endemic areas, native Christians, who have no food scruples, come next, Mohammedans, who eat most things, come next, and Hindus, the greatest rice eaters of all, come last In a total of 565 cases of beriberi in Indian soldiers stationed at various places, 492, or 89 per cent, occurred in Madrassis, and the majority of these came from the northeast coast, where beriberi is endemic Residence in the endemic areas seems to impart to some persons a susceptibility to beriberi Rice exported from endemic areas to other countries does not appear to be associated with the spread of this disease, and such facts almost force McCarrison to conclude that the endemic regions themselves are concerned in the cause of beriberi

Pigeons were fed in 1919 exclusively on rice said to have beriberi-producing qualities, and not one developed the disease Pigeons were fed in 1923 on rice that was said to have beriberi-producing qualities, and 11 per cent developed beriberi The latter pigeons came from an endemic region, the former pigeons did not It was not only among Bangalore pigeons fed on rice from Masulipatam that beriberi developed, it occurred also in Bangalore birds fed on millet and polished rice grown in a nonendemic area Neither the millet nor the rice fed separately causd the disease, but the two fed together did Pigeons fed exclusively on polished rice did not survive long enough to develop beriberi, so it seems that a little vitamin B, provided the amount is always insufficient, is necessary for the disease to appear

Thirty cases of beriberi occurred in a battalion of 800 Gurkhas who had subsisted for months on decorticated

1 McCarrison Robert Rice in Relation to Beriberi in India Brit M J 1 414 (March 8) 1924

rice, vegetables, pulses, oil and condiments and, for two weeks previous to the outbreak, on spoiled rice The case incidence in this battalion, 3 7 per cent, was almost identical with that of 105 Bangalore pigeons fed on beriberi-producing rice or on raw polished rice and millet Four of these pigeons at necropsy showed changes characteristic of true beriberi, a case incidence of 3 8 per cent Why did 770 men among 800 subsisting on the same deficient diet for months escape beriberi? Why did 101 of 105 pigeons fed on the same diet escape beriberi?

The accepted views regarding beriberi and rice, as far as India is concerned, require modification, the author concludes Vitamin deficiency, he believes, is rarely the sole agent in the cause of beriberi

# Current Comment

## THE CHICAGO SESSION

The Chicago Session of the Association promises at the time we go to press to be the greatest in matter of attendance and in intensity of interest of any session ever held by the American Medical Association The registration up to this time was 6,970 The House of Delegates had an attendance of 132 Meetings of the House were held in the new Assembly Room at the headquarters building, and arrangements were made to furnish a luncheon to the Delegates in the lunch room used for Association employees, so that more time was allowed for actual work in the House This is indicated by the scope of the minutes of the first day's session, published in this issue The minutes of the Thursday session, together with those of the sections, will appear next week All the scientific meetings, the motion picture exhibit and the diagnostic clinics, as well as the Scientific and Commercial exhibits, were held on the Municipal Pier The Commercial Exhibit was the largest ever assembled, and the Scientific Exhibit aroused unusual interest, particularly the special exhibits of fresh pathologic tissues and the prevention and treatment of heart disease The excellent arrangements made the registration of the large number of Fellows easy, and general satisfaction was expressed by all concerned in the character of the arrangements A significant feature of the present session was a testimonial dinner to Dr George H Simmons in honor of his twenty-fifth year as Editor of THE JOURNAL and General Manager of the Association An account of this dinner appears elsewhere in this issue The Opening General Meeting of the Association was held in the Auditorium Theater, with about 3,000 persons attending The address of the President was broadcast by radio and, in addition, received wide publicity through the press It is significant of the progress which the work of the Association is making in the estimation of the public that many columns of space were given to the affairs of the Association and that, too, on the first pages of metropolitan newspapers at a time when the Republican national convention was holding first place in newspaper interest

## ABANDONED THEORIES REGARDING NARCOTIC DRUG ADDICTION

Among the problems presented in the management of narcotic drug addicts are the disagreeable manifestations that may attend the discontinuance of the drug[1] The so-called withdrawal symptoms that arise in the case of those who have become accustomed to large doses of morphin are well known to all practitioners who are compelled to deal with such habitues They vary from mere discomfort to extreme forms of malaise, occasionally resulting in severe collapse These phenomena must necessarily be taken into account in any attempt to explain the nature of addiction and its consequences Most of the hypotheses ventured thus far have failed to be substantiated when they were put to severe experimental tests For example, it has repeatedly been alleged that the continuous taking of morphin causes the presence in the blood serum of a substance having a protective effect against this drug Pellini and Greenfield,[2] however, have been able to show that the blood of a tolerant animal does not contain any protective substance against morphin; nor in the blood serum of a human being who has acquired a high tolerance to morphin could they detect any substance capable of conferring any degree of immunity to the toxic action of morphin on an animal into which it is injected In their latest investigations in this field, at the University and Bellevue Hospital Medical College, these investigators[3] have exploded the theory advanced by Valenti[4] that a specific toxic substance is produced by habituation to morphin At any rate, in the blood of dogs habituated to morphin, no product is detectable that is capable of producing circulatory disturbances in normal animals into which the serum is injected Pellini and Greenfield recall that there has been a more or less widespread belief that there is such a substance and that it is the cause of the well known symptoms of morphin withdrawal when no longer neutralized by the continued administration of morphin, and some methods of treatment of drug addiction have been founded on this belief The time has arrived for seeking a new point of departure in the explanations of the varied manifestations that are presented by drug addicts

1 An extensive bibliography on the subject of morphin addiction is given by DuMez, A G Increased Tolerance and Withdrawal Phenomena in Chronic Morphinism, J A M A **72** 1069 (April 12) 1919

2 Pellini, E J, and Greenfield, A D Narcotic Drug Addiction, I, The Formation of Protective Substances Against Morphin, Arch Int Med **26** 279 (Sept) 1920

3 Pellini, E J, and Greenfield, A D Narcotic Drug Addiction, II The Presence of Toxic Substances in the Blood Serum in Morphin Habituation, Arch Int Med **33** 547 (May) 1924

4 Valenti Arch f exper Path u Pharmakol **75** 437, 1914

**Vital Capacity of Miners**—Vital lung capacity observations were made on approximately eighty bituminous coal miners whose ages ranged from 17 to 73 years The time spent in this occupation ranged from one week to fifty-seven years with an average of 16 7 years The average vital lung capacity calculated from surface area, according to the methods of Dreyer and West, was 93 4 and 91 4 per cent of the normal respectively No appreciable decrease in capacity was observed below the age of 46 years, or twenty-four years of service in the mines The lower averages after these periods were attributed more to advancing age than to occupation—J A Myers *Am Rev Tuberc* **9** 55 (March) 1924

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES NEW HOSPITALS, EDUCATION, PUBLIC HEALTH ETC.)

## ARKANSAS

**Hospital News**—Four more hospitals will be completed in Little Rock within the next year the Missouri Pacific Hospital, which will accommodate 120 patients, the Baptist Hospital, which will cost $500 000, the sixty bed Children's Hospital, which will cost $150,000, and the Trinity Hospital, of fifty beds

## COLORADO

**Personal**—Dr William J Bingham, Denver, is now in charge of the Hospital Americano-Latino, Puebla, Mexico

**Hospital News**—The Chamber of Commerce of Boulder recently approved plans for the construction of a $100,000 community hospital in that city

## ILLINOIS

**Hospital News**—Work will start, about July 1, on a new hospital in Chicago Heights, at Fourteenth Street and Chicago Road, which will have a capacity of 185 beds

### Chicago

**Hospital News**—The Lutheran church recently voted an appropriation of $1,500,000 for the Augustana Hospital, Cleveland Avenue, Chicago——Bids have been taken for the erection of a $15,000 nurses' home for the Keystone Hospital on Kostner Avenue Dr Lewis K Eastman is president of the board

**Personal**—Dr Dean Lewis will address the Utah State Medical Association, June 20 and 21, on "Reconstructive Surgery" and "Intestinal Obstruction"——Dr Henry B Thomas, Chicago, recently held an orthopedic clinic and gave an address before the Allen County Medical Society, Fort Wayne, Ind——Prof Julius Stieglitz, Ph D, University of Chicago delivered the second course of Dohme lectures at Johns Hopkins University Medical Department Baltimore, on "Chemistry and Recent Progress in Medicine," May 12-14

## INDIANA

**State Board Makes Arrest**—J T Mehrlick, Indianapolis, was arrested May 28, on a warrant sworn by the secretary of the State Board of Medical Registration and Examination, for practicing medicine without a license

**Personal**—Dr Earl C McBride, Terre Haute, was recently elected president of the Terre Haute Academy of Medicine——Dr William E Mendenhall, Indianapolis police and fire surgeon has been relieved of that position by the mayor, and Dr Ray V Converse appointed to succeed him

## KENTUCKY

**Physician Held on Narcotic Charge**—Dr Samuel C Long, Monterey, recently arrested on a charge of violation of the narcotic act, it is reported, was held in the Franklin County jail, in default of bond

**New Department of Physiology**—A new department of physiology and pharmacology has been organized at the University of Louisville, with Dr Henry G Barbour, professor of physiology and pharmacology, William F Hamilton, assistant professor of physiology, Rheinhard Beutner, assistant professor of pharmacology, Arville O DeWeese, assistant professor of physiology and pharmacology, and Dr Hulbert V Noland, instructor in clinical pharmacology

## MARYLAND

**Semiannual Meeting with Governor**—The semiannual meeting with the governor of the board of mental hygiene, board of welfare, and boards of managers of the state hospitals for the insane and feebleminded was held May 28, at the Springfield State Hospital, Sykesville The Clark Epileptic Colony a group of four buildings for the treatment of epileptic patients recently completed at the Springfield State Hospital, was dedicated and formally opened for patients The two dormitories, each in the new group of buildings, will accommodate 100 patients

**Personal**—Dr Charles R Truitt, Salisbury, has been reappointed county health officer——Dr Josiah S Bowen has been appointed county health officer by the Baltimore County commissioners to succeed Dr Harry M Slade, who has been appointed medical examiner of the fire and police departments——Dr William S Baer of Baltimore held a clinic, June 3, in the York Hospital at York, Pa, at the request of the Rotary Club of that city, at which time fifty-two crippled children were examined——George E Vincent, president of the Rockefeller Foundation, addressed the annual conference of health officers and county boards of health with the executives of the state department of health, June 6, at the Medical and Chirurgical Faculty Building, Baltimore

## MASSACHUSETTS

**Psychiatrists Organize**—The Massachusetts Psychiatric Society was recently organized in Boston with the following officers president, Dr Walter E Fernald, superintendent of the Massachusetts School for the Feebleminded, Waverly, vice president, Dr George M Kline, commissioner of the department of mental diseases, Boston, and secretary-treasurer, Dr Ralph M Chambers, assistant to the commissioner of the department of mental diseases, Boston Dr William A White, superintendent of the government hospital for the insane (St Elizabeth's Hospital), Washington, D C, delivered the principal address

## MICHIGAN

**Alumni Clinic**—The annual alumni clinic of the Detroit College of Medicine and Surgery will be held, June 16-20 Dr John O Polak, Brooklyn, will give a clinic in gynecology, Dr Charles W Stone, Cleveland, a heart clinic, Dr Joseph C Doane, Philadelphia, a chest clinic Dr Willard Bartlett, St Louis, will give an address on 'Surgery of the Thyroid," and Dr Gustav Kolischer, Chicago, will talk on genito-urinary diseases

**Lawyers' and Physicians' Meeting**—The lawyers of Lansing were guests of the Ingham County Medical Society at a meeting, May 15, at which Dr Albert M Barrett, professor of psychiatry at the University of Michigan Medical School and director of the Psychopathic Hospital, Ann Arbor, gave an address on 'The Psychiatric Aspects of the Behavior Problem"——There will be a joint picnic of the lawyers and physicians of Lansing at the farm house of Chief Justice Howard Weist of the state supreme court, June 14

## MISSOURI

**Physicians Must Serve Prison Sentences**—It is reported that Dr Leon Hurwitz, Joplin, and Dr B B Jackson, Kansas City, must serve prison sentences for the unlawful sale of habit-forming drugs, according to notice from the federal court of appeals received at Kansas City, May 17 This is the second conviction for Dr Hurwitz, it is said, who must now serve three years

**Support to Welfare Board Withdrawn**—The county support of the Sedalia Social Welfare Board was ordered withdrawn by the county court, effective June 1 The court stated that this action was taken to enable the county to take over the entire quota, $3,000, of the county for the Public Health Unit, the entire expense of which is about $10,000 annually Of this total the state, it is reported, will allow $4,500, the Red Cross $1,300, the Antituberculosis Society $300, and the Metropolitan Insurance Company $900

## NEW YORK

**Society News**—At a meeting of the Brooklyn Society of Internal Medicine, May 23 Dr Bernhard A Fedde was elected president, Dr Joseph Francis Ward, secretary, and Dr Charles E Hamilton, treasurer

**University of Rochester School of Medicine and Dentistry**—A limited number of students will be received at the University of Rochester School of Medicine and Dentistry for the session beginning September 1925 Candidates probably will be selected about July 1, 1925, and those wishing admission should write for application blanks, which should be returned to the dean's office properly filled out not later than May 1, 1925 The requirements listed in the circular of the University of Rochester are minimal, and additional training particularly in the sciences having a direct bearing on medicine will be to the advantage of the candidate, according to an announcement from the secretary's office received, June 6

### New York City

**Hospital News**—The Bronx Hospital, Fulton Avenue and One Hundred and Sixty-Ninth Street, which is adding a new $750,000 building on the adjoining lot, received a contribution of $200,000 from the directors, it was announced, May 16

**Personal.**—Robert Thorne has been elected president of the Neurological Institute to succeed the late Robert P Perkins ——Dr Ernest M Vaughan, medical assistant district attorney, has been appointed associate professor of pathology at the Long Island College Hospital, Brooklyn ——Dr Phillip R Lehrman has been appointed assistant professor in the department of neurology and psychiatry at the New York Post-Graduate Medical School and Hospital ——Victor C Myers, Ph D, professor and director of the department of biochemistry, New York Post-Graduate Medical School and Hospital, for thirteen years, has resigned to accept the appointment of professor of biochemistry at the State University of Iowa and pathologic chemist to the University Hospital

### OHIO

**Conference of Health Boards**—At a meeting of representatives of the boards of health of Washington Court House and the county, a contract was signed for the joint employment of Dr Theodore F Myler of Cleveland as full-time health officer, with the county paying 60 per cent and the city 40 per cent of the officer's salary, and with the agreement that his time shall be given to each in the same proportion Dr Myler took over his new duties, June 1

**Bogus Medical Diplomas Found**—When the arrest was made of W H Hart at Marietta for practicing medicine without a license, a quantity of fake medical diplomas were found The diplomas purported to be issued by the Royal College of Physicians and Surgeons of London, England, and some were printed, it is reported, with Hart's name appearing on them W L H Moore was arrested also charged with violating the narcotic laws The two men are said to have operated together Those making the arrest believe the diplomas were forged from a photographic copy Both men were put in jail

### PENNSYLVANIA

**Tri-County Society's Annual Meeting**—The annual meeting of the Tri-County Medical Society will be held at the Harrisburg Country Club, June 26, when members of the Dauphin County Medical Society will be the hosts The entire afternoon will be given over to tennis, golf and other sports

#### Philadelphia

**Personal**—Dr V G Anrep, University of London, England, delivered two lectures before the Physiological Society of Philadelphia, June 2-3 ——Dr W Forest Dutton, medical director of the hospitals of the graduate schools of medicine of the University of Pennsylvania, has resigned Dr Dutton expects to leave this city for northwest Texas to establish a laboratory there for the study of anemia ——Dr P Brooke Bland, assistant professor of gynecology, Jefferson Medical College, conducted an all day gynecologic clinic in the Presbyterian and St Francis hospitals at Waterloo, Iowa, for members of the Waterloo Medical Society, Wednesday, May 22, and in the evening presented a paper on "Significance of Gynecologic Symptoms" at the annual meeting of the society ——Dr Martha Tracy, dean of the Woman's Medical College, will take a year's leave of absence, beginning June 15 During her absence, Dr Mae L Myers, professor of histology, will have charge of student relations and Dr Henry D Jump, professor of applied therapeutics, will act as head of the faculty

### PHILIPPINE ISLANDS

**Personal**—Dr Arturo Garcia, head of the department of anatomy, University of the Philippines College of Medicine and Surgery, Manila, has been elected faculty representative on the board of regents of the university ——Dr Rafael Jesus Perez, Manila, is the first Filipino to receive a commission in the Medical Reserve Corps of the U S Army About thirty Filipinos will receive appointments to the commissioned personnel of the reserve corps in response to a request for applications from Filipino physicians recently issued

### CANADA

**Fund for Mental Hygiene**—The Rockefeller Foundation has recently granted the sum of $75,000 to the Canadian National Committee for Mental Hygiene, for research, experimentation and demonstration in mental hygiene It is understood that a similar amount will be forthcoming from Canadian sources, which will be devoted to the study of children for a five-year period

**Association News**—At the annual meeting of the Northumberland and Durham Counties Medical Association held, recently, at Coburg, Ont, officers for 1924 were elected as follows president, Dr Henry W Benson, Port Hope, Ont, first vice presidents, Drs Alexander C Beatty, Garden Hill, Ont, and James C Hutchinson, Grafton, Ont, and secretary, Dr Diamond, Port Hope, Ont —— At the meetings of the spring session of the Western University Faculty of Medicine, London, Ont, Dr John D Comrie, Edinburgh, Scotland, gave an address on "Nephritis", Dr Alexander Primrose, Toronto, Can, on "Tumors of the Breast," and Dr Allen B Kanavel, Chicago, on "Neuralgias of the Face"

**Personal**—Dr Frederick G Banting, Toronto, and F W Merchant, Toronto, were the recipients of the degree of doctor of laws, recently, from the Western University Faculty of Medicine, London, Ont ——Dr Afriano de Amaral, of Sao Paulo, Brazil, the noted toxicologist, recently arrived in Toronto to study the production and use of insulin at the University of Toronto Faculty of Medicine Dr de Amaral, who is representing Brazil, will place his observations at the disposal of his government ——Dr O R Avinson, who for the last thirty-one years has practiced medicine in Korea, Asia, where he founded a medical college, was recently presented with the honorary degree of doctor of medicine from the University of Toronto

### GENERAL

**American Association of Genito-Urinary Surgeons**—At the annual meeting of this association, May 26-28, at Stockbridge, Mass, the following officers were elected president, Dr Arthur L Chute, Boston, vice president, Dr William F Braasch, Rochester, Minn, and secretary-treasurer, Dr Henry G Bugbee, New York

**Baking Industry to Honor Pasteur**—A bronze bust of Pasteur will be unveiled and dedicated at the American Institute of Baking, 1135 Fullerton Avenue, Chicago, early in September, before the American Bakers' Association meeting opens at Atlantic City, N J, September 21 The baking industry considers Pasteur "the father of modern baking"

**Lister Ward Relics**—Prof J H Teacher obtained from the demolition contractor and presented to the University of Glasgow relics from the famous and recently much discussed Lister Ward which is being demolished (THE JOURNAL, January 12, p 137) The gift includes a simple iron grate, an ashpan, a steel fender and a plain gray stone mantelpiece

**Bill on Heroin Passes**—In the closing hours of Congress, the bill prohibiting the importation of crude opium for the manufacture of heroin was passed and signed by the President The bill amends the existing law (Act of Feb 9, 1909) by providing that "no crude opium may be imported or brought in for the purpose of manufacturing heroin"

**American Laryngological, Rhinological and Otological Society**—At the annual meeting of this association in St Louis, May 29-31, the following officers were elected president, Dr William H Haskin, New York, vice presidents, Drs Gordon Berry, Worcester, Mass, Hugh M Taylor, Jacksonville, Fla, George F Keiper, Lafayette, Ind, Don A Vanderhoff, Colorado Springs, Colo, and Edward C Sewall, San Francisco, secretary, Dr Robert L Loughran, New York, and treasurer, Dr Ewing W Day, Pittsburgh

**Association of American Orthopsychiatrists**—The organizing committee of the Association of American Orthopsychiatrists called a meeting, at the Institute of Juvenile Research, 721 South Wood Street, Chicago, June 10 The members of the committee were Dr Victor V Anderson, New York, chairman, Dr Herman M Adler, Chicago, Dr Lawson G Lowrey, Minneapolis, Dr David M Levy, Chicago, Malcolm A Bliss, St Louis, and Karl A Menninger, Topeka, Kan, secretary The program comprised the general business of organization, the adoption of a constitution, the discussion of plans for an association journal, and a program consisting of nine papers

**Crampton Bill Passed by House**—June 9, 1924, the Crampton bill providing for the establishment of a special bureau of prohibition in the Treasury Department was passed by the House in the closing days of the session The bill places the supervision of industrial alcohol distilleries, as well as the enforcement of the Volstead law, in charge of the commissioner of prohibition It creates a division of industrial alcohol and chemistry to administer the manufacture, dis

tribution and sale of alcohol for scientific research and lawful industry The bill, however, did not pass the Senate The objections were made by manufacturers, who asked for hearings in the Senate These objections are based largely on the fact that commercial interests engaged in the manufacture of alcohol for industrial purposes would be upset by any change in the existing methods of control of such industry

**Testimonial Dinner to Dr George H Simmons on Monday Night, June 9**—A testimonial dinner with the presentation of his portrait was tendered to Dr George H Simmons at the Congress Hotel, Chicago, by more than four hundred Fellows of the Association, and invited guests Addresses on the work of Dr Simmons were made by Drs Harvey Cushing, Frank Billings, William H Mayo and Mr Will Owen Jones, editor of the *Nebraska State Journal* An address on Dr Simmons as a citizen, prepared by Dr Hubert Work, was read in his absence by Dr Ludvig Hektoen The portrait of Dr Simmons was presented by Dr William S Thayer and a response was made by Dr Simmons The portrait is being hung in the Assembly Room of the House of Delegates at the headquarters of the Association

**Municipalities May Ban Prescription Liquor**—The Supreme Court ruled, May 27, that municipalities are at liberty to prohibit the sale of intoxicating liquor on physicians' prescriptions Justice McReynolds said that neither the eighteenth amendment nor the Volstead act grants the right to sell intoxicating liquor within a state The opinion was handed down in a case brought from California by Merlin W Hinson, a druggist of Los Angeles, to test an ordinance of that city which prohibits druggists from furnishing more than a half pint of intoxicating liquor on a physician's prescription Justice McReynolds said that Hinson had failed to raise any substantial national question, and that nothing in the Volstead act lends color to the suggestion that it endows pharmacists with the right to dispense liquor

## LATIN AMERICA

**Typhus in Chile**—The *Revista de Beneficencia Publica* states that the hospitals at Quirihue and at Temuco have been swamped with the number of the cases of exanthematous typhus which have been occurring in southern Chile

**The National Medical Congress in Venezuela**—The next triennial medical congress of Venezuela is announced to be held in Caracas, Dec 1-8, 1924, just preceding the celebration of the centennial of the battle of Ayacucho in the fight for independence These national congresses make a special study of the diseases peculiar to or prevalent in Venezuela, and a vice president and a committee have been appointed for each state

**Personal**—The *Bulletin* of the public health service in Costa Rica announces that Dr L Schapiro is on his way to Costa Rica to found a public health laboratory The International Health Board has appropriated $4,000 for the purpose Dr Schapiro was formerly in charge of the hookworm campaign and school inspection service in Costa Rica ——Prof T G Perrin of Mexico has been elected foreign member of the Academia de Medicina at Madrid ——Dr Salvador Zubiran has returned to Mexico from a clinical trip to the United States

**The Hookworm Campaign in Colombia**—The *Repertorio* of Bogota states that 206,453 persons were given treatment in the campaign against hookworm in the four years closing with 1923, and 133,405 were cured The total expense to the government was $267,616, which represented an average of $1 29 a person treated, and of $2 a person cured The Rockefeller Foundation aided in the work, bringing the total expense per person treated to $1 59, and per person cured to $2 47 The expense per person cured has grown less each year, from $1 11 in 1920 to 59 cents in 1923

## FOREIGN

**Collection of Fleas Presented to Museum**—Dr Karl Jordan aided in the collection of the N C Rothschild collection of fleas, which was recently presented to the British Museum It includes 40,000 specimens from the 680 known varieties, with 3 500 microscopic preparations Among these are some made by Gauthier and Raybaud of Marseilles, in 1902, in studying the transmission of plague by fleas

**Personal**—Dr G E de Schweinitz, Philadelphia, addressed the Belgian Societe d ophthalmologie, May 18, on the "Relation Between the Pressure from Sclerotic Arteries at the Base of the Brain and the Gaps in the Visual Field"——Dr Jose Rodriguez Carracido, rector of the University of Central Spain, Madrid, professor of materia medica, was recently appointed honorary surgeon general of the army, and the Academia de Medicina held a special gala meeting in his honor with royal and military notables to greet him——Dr G Pittaluga, Madrid, has been designated by the League of Nations to make a tour of inspection of conditions in regard to the public health in Russia and the Balkan states——Dr N Charles, emeritus professor of obstetrics at Liege, was presented with addresses, a souvenir volume and a banquet in his honor on the date of his retirement June 1——In the parlors of a private house at Paris, Prof R Proust delivered an address recently on the "Treatment of Cancer with Both Surgery and Radium" He has been a pioneer in this line Professor Bavet of Brussels presided at the meeting——Dr G Radogna of Rome is in charge of the course of lectures on malariology which has been organized by the government of Italy for a party of Argentine physicians and engineers sent by the Argentine government for the purpose——Professor Laignel-Lavastine, secretary of the International Society for the History of Medicine, has been invited to deliver a course of lectures at Brussels He will lecture on "Depression in History, Art and Literature," "Idem in Different Centuries" and "The Pathologic Physiology of States of Depression" The lectures are open to the public free of charge——Prof K. F Wenckebach of Vienna, Austria, lectured, recently, before the Royal College of Physicians of London, Eng, on "Angina Pectoris and the Possibilities of Its Surgical Relief" and the following day gave a clinical demonstration at Guy's Hospital

### Deaths in Other Countries

Dr **F F Roth**, chief of staff of the Bamberg Hospital, honorary citizen of the city, aged 98——Dr **B Bandelier**, director of the Schwarzwaldheim Sanatorium near Wildbad and author of a "Manual of Diagnosis and Treatment of Tuberculosis" that has passed through numerous editions ——Dr **José T Ochoa**, founder and long president of the Sociedad Medica of Ciudad Bolivar, Venezuela ——Dr **Manuel María Villada**, a leader in teaching the natural sciences in Mexico, member of the National Academy of Medicine, founder of the scientific review *La Naturaleza* honorary president of the Alzate Society, and foreign member of nature study societies in different countries, aged 83——Dr **Julián Sierra y Domínguez**, professor of chemistry at National School of Medicine, Mexico, and director of the faculty of chemical sciences——Dr **David Newman**, Glasgow, Scotland, on the Indian Ocean, while returning from a visit to Australia where he had been received with acclamation by the surgical profession, author of volumes on 'Surgical Diseases of the Kidneys," "Operations on Kidneys and Ureters and many other subjects ——Dr **Charles Robert Graham**, consulting surgeon to the Royal Albert Edward Infirmary, at his home on the shore of Morecambe Bay, aged 67——Dr **Carlos Domingo Sáenz**, professor of clinical medicine at the University at Quito——Dr **Ramon Arango**, formerly professor of surgery at the University of Colombia

# *Government Services*

### Veterans' Bureau News

The director of the Veterans' Bureau has announced the appointment of Dr Benjamin W Black as executive officer of the medical division of the bureau, succeeding Dr Andrew J McIntyre who has been detailed chief of the insurance medical section of the bureau Dr Black was formerly sub district manager of the Salt Lake City office of the bureau, Dr McIntyre has been the executive officer of the medical division for the last three years

### Graduates Commissioned in Navy

Sixty-one senior students, graduating from various Class A medical colleges in 1924, will be immediately commissioned as assistant surgeons in the navy They will be given the rank of lieutenants, junior grade, and assigned to the larger naval hospitals for their internships The selection of these graduates is the result of a program established by the Secretary of the Navy, a year ago, to fill vacancies that have for many years existed in the medical corps of the navy The new policy thus established gives to each of these students a commissioned status in the navy, with pay of $2 699 a year when the medical officer is without dependents and $3 158 a year when such officer has dependents These senior medical students, who are thus commissioned, will receive

such salaries and internship training for at least a year in the larger navy hospitals, located at Boston, New York, Philadelphia, San Diego, Calif, and San Francisco As a further result of the new policy of the Navy Department, there now exist only twenty-seven vacancies in the navy medical corps These twenty-seven vacancies are available for graduates of medical colleges who have had internship or professional experience, after graduation, fixed by the regular rules of the medical corps of the navy

## Foreign Letters

### LONDON

*(From Our Regular Correspondent)*

May 19, 1924

#### Criminal Responsibility Bill

In a previous letter (THE JOURNAL, Dec 15, 1923, p 2044) the recommendations were given of a committee of judges and lawyers appointed to consider whether any changes were necessary in the existing law with regard to criminal responsibility when the plea of insanity is raised The committee recommended that the rules of criminal responsibility of the McNaghthen case be maintained, but that irresponsibility should be extended to acts committed under an impulse that could not be controlled in consequence of mental disease Lord Darling has introduced into the House of Lords a bill to carry out this recommendation He pointed out that the law of England had long allowed an accused person to escape capital punishment on the ground of insanity Until 1883, the law was that in such a case the verdict was "Not guilty" because of insanity at the time of the crime, and the accused was ordered to be detained in a lunatic asylum "during his majesty's pleasure" Then the law altered the verdict to "Guilty of doing the act charged but insane at the time" That was illogical, and he proposed to bring back the law to what it was previously His main reason for bringing in the bill was that there had long been a contest between the medical specialists and the law The specialists contended that, as soon as a person was insane in their sense, he should be absolutely unpunishable, no matter what crime he committed Some of them called themselves determinists, some of them considered that human beings were merely automatic creatures who acted with no control whatever over their actions The law of England had never recognized that, and he hoped never would But it recognized that a person might be insane in a legal sense and so entitled to escape punishment Whenever a judge summed up in a murder case, he laid down the law as to insanity according to the McNaghthen rules He told the jury to inquire whether, when an accused person committed the act, he knew its nature and quality, and to say whether he knew that the act was wrong If so, he was guilty, if he did not know this, he was not guilty, on the ground that he was insane Physicians had complained that no notice was taken of a further possibility, and that these rules simply dealt with the intellectual qualities of the man, which were not exhaustive in the case of insanity To the rules in the McNaghthen case he proposed to add that the accused person was entitled to a verdict of not guilty on the ground that he was insane "if at the time the act was done or omission made he was suffering from such a state of mental disease as therefrom to be wholly incapable of resisting an impulse to do the act or make the omission"

In the debate that followed, Lord Hewart stated what was the opinion of the judges of the king's bench division, who were also judges of the court of criminal appeal He had consulted twelve of his colleagues Of these, ten were—as he was—emphatically opposed to the measure, one was emphatically in favor of it, and one was doubtful He contended that if this new link was added to the alternatives before a jury, it would be impossible to distinguish between the impulse of the person said to be suffering from mental disease and the impulse of the ordinary offender, who was moved to commit crime for the desire of gain or for revenge Did Lord Darling suggest that the rules of the criminal law should be altered from time to time to accord with the advance of medical science in regard to insanity? Was it not safer to say that, as medical science progressed in this matter, the law would still ask whether a person was to be excused because he did not know what he was doing, or if he did know, because he did not know that what he was doing was wrong? Was it fair that juries should have propounded to them the sort of puzzle which this proposal would involve? If the bill was passed, it would immensely increase the difficulties of both judges and juries

The lord chancellor (Lord Haldane) said that it was proposed to introduce into the law a proposition that if a person suffered from mental disease which gave rise to an uncontrollable impulse he was to be absolved There was a good deal to be said for that in the abstract, but the objection was that it was a question insusceptible of solution, except in the actual individual mind Whenever there was a case that could not be defended on any other ground, it would probably be said that the offense was committed under an uncontrollable impulse He had given some attention to the subject of psychology Any more vague science than pyschology was at the present he did not know It was a most dangerous science when applied to practical affairs The bill received no support whatever, and was rejected

#### Medical Overhaul Every Year

Last July, the Wesleyan and General Assurance Society introduced an innovation in insurance practice in this country It instituted a scheme of free periodic medical examinations for ordinary policyholders The scheme, in the first instance, was limited to persons insured for $5,000 and over It has now been decided to extend the scheme to all policyholders insured for $2,500 and over The scheme will apply to those already insured, as well as to "new business" The examinations are confidential, the results are not divulged to the society In making the extension, the society has acted on three facts (1) the favorable reception the scheme has received, (2) the satisfaction expressed voluntarily by many of those affected by the scheme, and (3) the belief that by the opportunities for detecting incipient disease, especially in those who believe themselves to be thoroughly fit, preventive medical work can be accomplished and life definitely prolonged

### PARIS

*(From Our Regular Correspondent)*

May 16, 1924

#### The Health Committee of the League of Nations

The Health Committee of the League of Nations has just held its second session in Paris, under the chairmanship of Dr Madsen of Denmark Complying with the request of the Netherlands that something be done to bring relief from the excessive sanitary requirements that at present impede maritime commerce between nations, the committee has decided to recommend to the governments the conclusion of special arrangements, to study into practical measures that would naturally facilitate the conclusion of such arrangements, and to offer its services to the governments as a board of arbitration in case difficulties should arise in the application of the arrangements

The committee, acting in accordance with requests received from the governments mainly concerned, has decided to pro-

pose to the Council of the League of Nations that the port of Singapore be established as the seat of a bureau of epidemiologic information for the Far East

The committee instituted also a program of inquiry in regard to the incidence and epidemiology of malaria and the world supply of quinin This inquiry, however, mainly concerns southeastern Europe, where malaria has assumed disquieting proportions A subcommittee was appointed to make an investigation at first hand, during the three summer months, in Jugoslavia, Greece, Bulgaria, Roumania, Italy and possibly in Ukraine and Russia

### Notification of Occupational Diseases

The act of Oct 25, 1919, brought occupational diseases, from the standpoint of occupational hazard, into the same category as industrial accidents This law contains a twofold declaration 1 Every occupational disease for which the sufferer demands indemnification must be reported to the mayor of the commune within fifteen days of cessation from work 2 Certain occupational diseases must be notified by any physician who recognizes them The list of notifiable diseases includes the most typical and the most frequent forms of intoxication resulting from lead or mercury The law in question did not go into effect until 1921 In that year the number of notifications reached 148, fifty-three of which emanated from physicians, eighty-nine from the patients themselves, and six from both physicians and patients The year 1922 was marked by a noteworthy increase, evidently due, not to an aggravation of insanitary conditions but rather to a more general adherence to the law, owing to the fact of its having become better known Eight hundred and five notifications were sent in to the ministry of labor, 274 being received from physicians, 448 from the persons afflicted, and eighty-three from both Plumbism was at the basis of 144 cases out of 148 notified in 1921, and of 797 cases out of 805 reported in 1922 The adjoined table shows the trades in which lead causes the most damage

*Distribution of Cases of Plumbism*

| | Number of Cases Notified | |
|---|---|---|
| | 1921 | 1922 |
| Manufactories of enamel ware | 53 | 286 |
| Accumulator factories | 18 | 180 |
| White lead and minium factories | 5 | 94 |
| Painting of various kinds | 13 | 64 |
| Metal foundries | 12 | 35 |
| Printing establishments | 10 | 22 |
| Chemical products dyes | 4 | 23 |
| Factories of glass and crystal ware | 6 | 19 |
| Layers of sheet metal lead workers | 4 | 15 |
| Various industries | 19 | 59 |
| Totals | 144 | 797 |

From the standpoint of diagnosis, the manifestations of plumbism were much diversified

| | 1921 | 1922 |
|---|---|---|
| Ordinary lead colic | 98 | 559 |
| Lead colic with anemia | 7 | 27 |
| Lead colic, with rheumatism tremor and paralysis | 6 | 35 |
| Saturnine anemia with or without motor symptoms | 2 | 14 |
| Nephritis | 3 | 21 |
| Rheumatism | | 8 |
| Miscellaneous (arteriosclerosis cirrhosis of the liver hepatitis enterocolitis, etc ) | 12 | 27 |
| Uncertain diagnosis | 16 | 106 |
| Totals | 144 | 797 |

In a recent number of the *Gazette hebdomadaire des sciences medicales de Bordeaux*, M J Cavaille, inspector of labor, notes with regret that the value of the notification of occupational diseases still remains unrecognized by many physicians, since 59 per cent of the cases notified in 1921 and 56 per cent in 1922 were not reported directly by the attending physician but by the patients themselves However, if notification were carried out regularly, it would be possible to establish complete statistics which would have authoritative value in regard to cases of disease caused by the two main industrial poisons lead and mercury All the informational factors that enter into the problem of plumbism and mercurialism, such as case incidence, the risks characteristic of each trade, the essential symptoms and the clinical types of the disease, the gravity and duration of resulting incapacity, would thus be verified and brought up to date The value would be no less from the preventive point of view, for such statistics would furnish the means of charting the various trades and industries from the standpoint of the intoxication menace It would make it possible to set the limits of insanitary zones created by the use of lead and mercury, and would give us a more exact basis for a campaign of prophylaxis

### Physicians in the Chamber of Deputies

At the recent May election, there was a considerable number of physicians among the candidates On the basis of complete returns from 569 districts, twenty-nine physicians have been elected to the chamber of deputies Dr Gosset, professor of clinical surgery at the Paris Faculty of Medicine, was not elected Dr Pinard, formerly a professor on the same faculty, was reelected and, by virtue of the fact that he is the oldest member of the assembly, will preside at the first session of the new chamber of deputies It is the custom for the dean (by age) to preside over the new chamber until the credentials of the new body have been verified and approved Dr Pinard was born Feb 4, 1844, and, being now 80 years old, it is not likely that any of the newly elected members will be older than he

### Physician the Winner of a Literary Competition

A physician, Dr Pierre Lucchini, whose pen name is Pierre Dominique, has been awarded the Balzac literary prize Lucchini was born April 8, 1891, at Courtenay, department of Loiret He pursued his medical studies at Paris and practiced medicine three years in Corsica The prize was given him in recognition of his romance, "Notre Dame de la Sagesse"

## Marriages

NORVAL WILLIAM AUGUST HADDOW of Chippewa Falls, Wis, to Miss Louise Helen Miller of Minneapolis, April 16

CHARLES A RAGAN, Lieutenant Colonel, U S Army, retired, to Miss Dell McCue, both of New York, May 22

CHARLES FRANKLIN BRANCH to Miss Annie Ethelyn Sargent both of Burlington, Vt, April 26

ELMER ELLSWORTH LANGLEY, Spokane, Wash, to Mrs Pearl Grant Britton of Harrington, April 20

FREDERICK G BANTING, Toronto, Ont, Canada, to Miss Marion Robertson of Elora, June 4

RICHARD H MEADE, JR Richmond, Va, to Miss Mazie G Frazier of Chestnut Hill, June 14

BURTON L JACOBS Chattanooga, Tenn, to Miss Rena R Rowland of Nashville, April 13

WILLIAM ALOYSIUS DWYER to Miss Amelia Mary Dunn, both of Paterson, N J, June 5

NORMAN ROSS SULLIVAN to Miss Leila Fay Suire, both of Grand Junction, Colo, June 2

ALFRED M GOLTMAN to Miss Helen Hirsch, both of Memphis, Tenn, March 27

NEAL F CROWE, Delavan, Wis, to Miss Ruth Rogers Barker of Daytona, Fla, April 12

# Deaths

**Charles E Marrow** ⊕ Lieutenant Colonel, U S Army, retired, San Diego, Calif , University of Virginia Department of Medicine, Charlottesville, 1893, served in Cuba, Philippines, China and during the World War, was retired from active service February 28, 1922, for disability in the line of duty, aged 54, died, May 22

**Thomas A Berryhill** ⊕ Captain, U S Navy, Mare Island, Calif , George Washington University Medical School, Washington, D C, 1884, officer in charge of the U S Naval Hospital and the Hospital Corps Training School, Mare Island, Calif , aged 63, died, June 2

**Daniel Arthur Gray,** Hot Springs National Park, Ark , University of Pennsylvania School of Medicine, Philadelphia, 1869, formerly professor of clinical microscopy at the College of Physicians and Surgeons, Little Rock, aged 77, died, May 25, at a local hospital

**William H H Campbell,** Owings Mills, Md , University of Maryland School of Medicine, Baltimore, 1869, member of the Medical and Chirurgical Faculty of Maryland, Confederate veteran, aged 85, died, May 29, at Brookline, Mass, of senility

**Hugh Clarence Duffey,** Washington, D C , Georgetown University School of Medicine, Washington, 1891, member of the Medical Society of the District of Columbia, aged 54, died, May 31, of a self-inflicted wound, while suffering from ill health

**John M Reynolds,** Grand Haven, Mich , Homeopathic Medical College of Missouri, St Louis, 1867, member of the board of education for nineteen years, aged 79, died, May 20, at the Mercy Hospital, Muskegon, following an operation

**Charles Allen Davis,** South Dennis, Mass , Howard University School of Medicine, Washington, D C, 1883, Hahnemann Medical College of Philadelphia, 1884, member of the Massachusetts Medical Society, aged 76, died, April 29

**James Wright Williams,** Weston, Ohio, Eclectic Medical Institute, Cincinnati, 1875, formerly member of the city council, mayor of Weston, and member of the board of education, aged 75, died, May 19, at Cleveland, of heart disease

**Frank Seymour Grim,** Frenchtown, N J , Jefferson Medical College of Philadelphia, 1895, member of the Medical Society of New Jersey, mayor of Frenchtown, aged 56, died, May 21, at St Frances' Hospital, Trenton, of septicemia

**Frank A Long,** Eureka, Mont , College of Physicians and Surgeons, Medical Department Kansas City University, Kansas City, Kan, 1902, formerly state senator, aged 50, died suddenly, May 16, of heart disease

**Jesse Adolphus Amon,** Lancaster, Ky , Jefferson Medical College of Philadelphia, 1891, member of the Kentucky State Medical Association, aged 59, died, May 19, of injuries received in an automobile accident

**Raoul Rene Daniel Cline,** Galveston, Texas, University of Texas Department of Medicine, Galveston, 1909, lecturer and professor of pharmacy at his alma mater, aged 56, died, May 20, of cerebral hemorrhage

**William Nairn,** Alluwe, Okla , St Louis (Mo ) Medical College, 1872, member of the Oklahoma State Medical Association, aged 75, died, May 18, in a hospital at Oklahoma City, of cerebral hemorrhage

**Frank Leslie Sharrer,** Benton Harbor, Mich , University of Illinois College of Medicine, Chicago, 1906, member of the Michigan State Medical Society, aged 38, died suddenly, May 24, of heart disease

**Robert A Wolski,** Minneapolis, University of Minnesota Medical School, Minneapolis, 1900, aged 48, died, May 25, in San Diego, Calif of a self-inflicted bullet wound while suffering from ill health

**Otto M Haugan** ⊕ Fergus Falls, Minn , Northwestern University Medical School, Chicago, 1902, president of the board of education, aged 56, died, May 25, at St Luke's Hospital, of cerebral hemorrhage

**Edwin Flye Stetson,** Damariscotta, Maine, Medical School of Harvard University, Boston, 1879, member of the Maine Medical Association, aged 71, died in May, at New York, of heart disease

**George Wilmot Farmer,** Medical Lake, Wash , Michigan College of Medicine, Detroit, 1884, physician to the State Custodial School, aged 64, died, May 24, of cerebral hemorrhage

**Richard M Schmidt** ⊕ Hannibal, Mo , St Louis College of Physicians and Surgeons, aged 63, on the staff of St Elizabeth's Hospital, where he died, May 22, following a long illness

**Charles F Sauter,** New Orleans, Medical Department of Tulane University of Louisiana, New Orleans, 1894, member of the Louisiana State Medical Society, aged 53, died, May 19

**Leo Rosen,** New York, Long Island College Hospital, Brooklyn, 1913, member of the Medical Society of the State of New York, aged 43, died suddenly, May 27, of heart disease

**Archie Rosco Parrott,** Miami, Fla , Atlanta (Ga ) College of Physicians and Surgeons, 1908, member of the Florida Medical Association, aged 40, died suddenly, in May

**Edwin A Hazlet,** Allison, Iowa, Chicago (Ill ) Homeopathic Medical College, 1897, member of the Iowa State Medical Society, aged 60, died, May 17, of asthma

**Garrett David Leech,** Muncie, Ind , Bellevue Hospital Medical College, New York, 1875, aged 75, died, May 20, at the Home Hospital, of injuries received in a fall

**Thomas R Edwards,** Chanute, Kan , College of Physicians and Surgeons, Medical Department Kansas City University, Kansas City, Kan, 1895, aged 57, died, May 18

**Floyd Douglas Drumheller** ⊕ Philadelphia, University of Pennsylvania School of Medicine, Philadelphia, 1904, aged 44, died suddenly, May 21, of heart disease

**William H Cannon,** Saratoga, Ark , University of Tennessee College of Medicine, Memphis, 1890, aged 70, died, May 19, at a sanatorium in Texarkana

**Elijah Patterson Clemens,** Dayton, Ohio, Howard University School of Medicine, Washington, D C, 1894, aged 69, died, May 6, of heart disease

**Samuel B Cheatham,** Burkesville, Ky , University of Tennessee College of Medicine, Memphis, 1883, aged 74, died, March 3, of pneumonia

**George Washington Davis,** Duluth, Minn , Detroit (Mich ) Medical College, 1879, formerly member of the city council, aged 71, died, May 20

**Ulysses S Strouss** ⊕ Beaver, Pa , Western Reserve University School of Medicine, Cleveland, 1873, aged 76, died, May 17, of pneumonia

**Joseph Vandeventer,** Leesburg, Va , University of Maryland School of Medicine, Baltimore, 1869, aged 77, died suddenly, in May

**Charles S Kalb** ⊕ Aberdeen, Wash , George Washington University Medical School, Washington, D C, 1890, aged 57, died, May 17

**Edward D Lumley,** Williamsport, Pa , University of Pennsylvania School of Medicine, Philadelphia, 1871, aged 84, died, May 18

**Edward Oglethorpe Cyphers,** Belleville, N J , Hahnemann Medical College and Hospital of Philadelphia, 1893, aged 58, died, May 10

**George W Fralick** ⊕ Maple City, Mich , Michigan College of Medicine and Surgery, Detroit, 1893, aged 53, died, May 20, of uremia

**James Sherman Corbett,** Cincinnati, Medical College of Ohio, Cincinnati, 1894, aged 54, died, May 21, following a long illness

**Robert Edward McClelland,** Springfield, Ill , Rush Medical College, Chicago, 1874, aged 73, died, May 19, of cerebral hemorrhage

**Avila R L Marsolais,** Montreal, Que, Canada, Laval University Medical Faculty, Montreal, 1883, aged 65, died recently

**Thomas Renshaw Appleby,** Springfield, Mo (licensed, Missouri, 1883), aged 77, died, May 19, following a long illness

**John James Mooney** ⊕ Jersey City, N J , Bellevue Hospital Medical College, New York, 1896, aged 52, died in May

**Howard T Wharff,** Edwardsville, Ill (licensed, Illinois 1878), Civil War veteran, aged 77, died, May 22

**John R Renaker,** Los Angeles, Louisville (Ky ) Medical College, 1897, aged 52, died, March 19

**Eph Lockwood,** Fort Gay, W Va (licensed, West Virginia, 1898), aged 56, died suddenly, May 15

**Alexander B Hanna,** Sardis, Tenn , Chicago (Ill ) Medical College, 1865, aged 88, died, March 3

**Theodore C Harris** ⊕ Tabor, Iowa (licensed, Iowa, 1880), aged 71, died, May 29

# The Propaganda for Reform

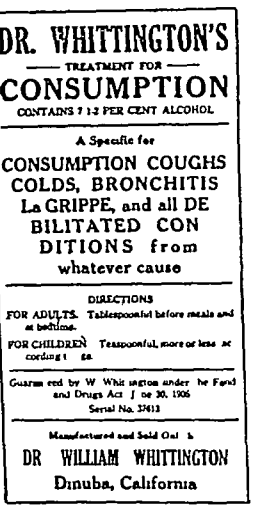
IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

## WHITTINGTON'S CONSUMPTION CURE A FRAUD

### The Postal Authorities Close the Mails to Frederick Graham and the Tuberculosis Home Remedy Company

On May 28, 1924, a fraud order was issued against the Tuberculosis Home Remedy Company at Fresno and Dinuba, Calif, and Frederick Graham at Denver, Colo The Tuberculosis Home Remedy Company is a California corporation and all of its stock is owned by the family of Dr William Whittington who died October, 1923 For more than twenty years Whittington, who was a physician, exploited an alleged treatment for consumption In December, 1915, the Whittington "cure" was the subject of a report in the Propaganda Department of THE JOURNAL and it was pointed out that Whittington himself was not only engaged in a disreputable piece of quackery but that he was a member of his local medical society In 1916 the local society brought charges against him and he was expelled from that organization Before publishing the article on the Whittington "cure" the stuff was analyzed in the Chemical Laboratory of the American Medical Association and was found to be a flavored syrup devoid of any potent ingredients except alcohol

In December, 1923, eight years after THE JOURNAL exposed the fraud, and two months after Whittington's death, the Tuberculosis Home Remedy Company and Frederick Graham were called on by the government to show cause why a fraud order should not be issued against the concern In February, 1924, Frederick Graham, accompanied by an attorney, Thomas Hackney of Kansas City, Mo, appeared at the office of the Solicitor and the case was taken up in formal hearing After the completion of the taking of testimony the case was orally argued and the attorney for the Whittington concern was given ten days in which to file a brief This was received in due course and Judge Edgar M Blessing, Solicitor for the Post Office Department submitted a memorandum to the Postmaster-General detailing briefly the facts in the case and recommending the issuance of a fraud order


DR. WHITTINGTON'S
TREATMENT FOR
CONSUMPTION
CONTAINS 7 1/2 PER CENT ALCOHOL
A Specific for
CONSUMPTION COUGHS
COLDS, BRONCHITIS
La GRIPPE, and all DE
BILITATED CON
DITIONS from
whatever cause
DIRECTIONS
FOR ADULTS. Tablespoonful before meals and at bedtime.
FOR CHILDREN Teaspoonful, more or less according to age.
Guaranteed by W. Whittington under the Food and Drugs Act June 30, 1906
Serial No. 23413
Manufactured and Sold Only by
DR WILLIAM WHITTINGTON
Dinuba, California

Reduced facsimile of the label on Whittington's Consumption Cure After Whittington's death the stuff sold outside of the State of California was exploited by Frederick Graham of Denver

#### FREDERICK GRAHAM, DISTRIBUTOR

It appears that after the death of Dr William Whittington one Frederick Graham became the sole distributor of this fraudulent cure outside of the State of California Graham advertised from Denver, Colo Judge Blessing's memorandum, after describing briefly the previous history of the nostrum continues

"The preparation is compounded in an outhouse near the rear of the family residence on a five-acre farm about two miles north of the town of Dinuba, California The factory building, which is constructed of rough 12-inch pine lumber, is about 30 by 40 feet in dimension The ground floor is divided in the center by a pine partition, one side being used as a manufacturing room and the other side as a packing and shipping room The preparation is manufactured by a son of Dr Whittington, who has no medical or pharmaceutical education, and the method of manufacture is somewhat crude

"When the inspector asked Dr Whittington for the formula he stated that he did not wish to submit his working formula, but he did allow the inspector to copy what purported to have been a chemical analysis made of his finished product, and stated that this analysis was correct as to his marketable product This formula or analysis is as follows

REVISED FORMULA

| | |
|---|---|
| Sugar | 15% by weight |
| Glycerine | 10% by weight |
| Alcohol | 10% by volume |

Each fluid ounce represents the extract matter from

| | |
|---|---|
| Pyrus malus folia (apple leaves) | 110 grains |
| Gentian Root | 30 grains |
| Rhamnus Purshiana (Cascara) | 5 grains |
| Licorice Root | 5 grains |

"Analyses of samples of the preparation furnished by the promoters and purchased through the mails, by chemists in the Bureau of Chemistry United States Department of Agriculture, indicate the absence of gentian and the presence of only traces of cascara and licorice The evidence shows that cascara is not present in the preparation in sufficient amounts to produce any laxative effects The principal ingredient in this preparation is apple leaves Mr Whittington was unable to explain how his father happened to hit upon apple leaves as a 'cure' for tuberculosis"

In some of his advertising Graham led prospective victims to believe that the preparation was a very expensive one to make He sold the stuff at $25 00 for four bottles The government reported that its investigations showed that the ingredients of each bottle were estimated to cost less than 18 cents Graham testified that he was selling from 70 to 80 treatments each month at $25 00 each, young Whittington, the son of the originator of the fraud, testified that from 20 to 30 "treatments" were sold direct from Dinuba, Calif In the circulars that he sent out Graham made such claims as

> This treatment is a medicine taken internally The medicine is absorbed by the blood and being taken into the blood acts directly on the lungs or affected parts
>
> When the medicine gets to doing its work through the blood and mucous tissues the deposit in the lungs or affected parts is loosened relieving them of the congestion and inflammation First the lungs or affected parts must be cleaned of the pus or poison The healing process will then start The medicine enriching the blood strengthening the tissues continuing the cleansing and healing process eventually leaving the lungs or affected parts in a permanently healed healthy condition
>
> It is guaranteed under the Food and Drugs Act '
>
> It has been on the market in a commercial way only a few months and already its fame is spreading

The Solicitor's memorandum, in referring to some of the claims made by Graham states

"Mr Graham who is not a physician, pharmacist, or chemist, and who had no knowledge as to what his medicine contained, claims that the above quoted statements as to the manner in which the medicine 'acts directly on the lungs or affected parts,' loosens' the 'deposit in the lungs,' clears them of 'all pus and poison,' relieves them of 'all congestion and inflammation, 'destroys the tubercular germ,' 'heals any cavities that may exist' and 'builds up the tissues' were based on what Dr Whittington had told him The evidence shows that all of these statements are false and fraudulent, and I so find

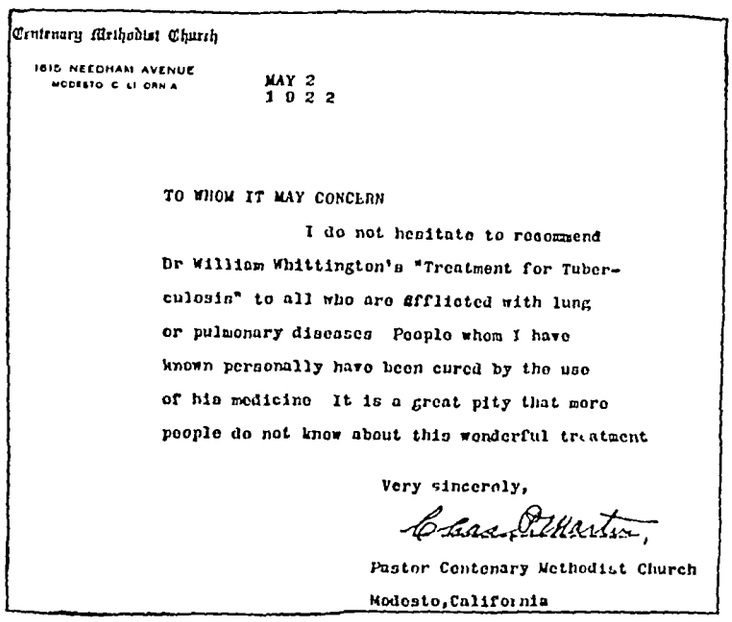
"The medical testimony offered by the Government was in no way controverted by the respondents No experts testified in their behalf Mr Graham stated that 'The medical profession, as far as I can find out in all cases condemn the medicine and tell the patients not to use it' Their entire defense was based on affidavits and letters from persons who have used the preparation In fact this business is largely built on the statements of laymen who claim marvelous cures of tuberculosis alleged to have been effected solely by its use "

"The unreliable character of testimonials of laymen as to the efficacy of medicines sold through the mails has been again and again demonstrated in cases which have come before this office It has been the experience of this office that no matter how worthless the preparation the promoters are always able to produce a large number of testimonials from well-meaning laymen reciting alleged wonderful cures

In one case [The "Professor" Samuels' swindle—ED] a preparation consisting of a little sugar and salt in ordinary hydrant water, a few drops of which were to be put in the eye of the patient, was exploited as a cure for tuberculosis largely by means of testimonials of users

"The experts who testified for the Government in the instant case stated that tuberculosis sufferers as a class are the most prolific testimonial givers

"I find that the representation that 'This is the first successful treatment for tuberculosis that has been found' was made by Mr Graham in reckless disregard of the truth "



Centenary Methodist Church

1615 NEEDHAM AVENUE
MODESTO CALIFORNIA

MAY 2
1922

TO WHOM IT MAY CONCERN

I do not hesitate to recommend Dr William Whittington's "Treatment for Tuberculosis" to all who are afflicted with lung or pulmonary diseases People whom I have known personally have been cured by the use of his medicine It is a great pity that more people do not know about this wonderful treatment

Very sincerely,

Pastor Centenary Methodist Church
Modesto, California

Testimonials were, as usual the chief advertising asset of this as all other fraudulent consumption cures Here is a miniature facsimile of a testimonial used in exploiting the cure It comes from a man who should have known better

"Mr Graham attempted to explain the statement that the medicine 'has been on the market in a commercial way only a few months' by stating that while he knew the medicine had been sold by Dr Whittington for a period of 20 or 25 years and had, on occasion, been advertised by him, that he considered his efforts the first 'to commercialize' the preparation"

Judge Blessing, in summing up the case in his memorandum to the Postmaster General, wrote

"I find that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises I, therefore, recommend that a fraud order be issued against the Tuberculosis Home Remedy Company of California, Inc, and the Tuberculosis Home Remedy Company at Fresno and Dinuba, California, and Frederick Graham, at Denver, Colorado"

As previously stated, the fraud order was issued May 28, 1924

## Correspondence

### GUARDING AGAINST VIOLATION OF THE HARRISON ACT

*To the Editor* —Probably there is no legislation of recent times of a purely public health nature from which the public should derive as much benefit, as from the Harrison Narcotic Law We wish to call attention to a practice of many detail men who call on the physician, and who frequently request a prescription blank, as evidence of their visit

Without the slightest reflection on any detail men, we wish to condemn the practice of distributing prescription blanks in lieu of business cards, on account of the ease with which forgeries can be perpetrated Many times the physician is asked for one of his cards by people who wish to have his name, address, and telephone numbers for future reference, and the physician gives them a blank prescription blank, which may fall into the hands of some one who may be an expert on writing narcotic prescriptions, and the forger may not be a professional man at all

Recently, we were told by a detail man, that, after visiting the profession on a certain day, he went to his hotel, and while making his daily report to his house, had on the table before him several cards and prescription blanks which he had gathered that day The bellboy, in bringing him ice water, caught sight of the prescription blanks, and immediately began negotiations for the purchase of the blanks This detail man stated that this bellboy admitted to him that he could get five dollars apiece for the desired blanks

From the foregoing incident we may safely conclude that at least some prescription blanks are filled in for narcotics, the physician's signature and narcotic number, which is usually printed on his prescription blank, being forged

R W BLACKMAR, M D,
B F WOOLSEY, M D,
Jacksonville, Fla

### CORRECT DEFINITION OF "APOPLEXY"

*To the Editor* —On March 11, 1922, you published an editorial calling attention to the misuse of the word "apoplexy" by medical writers, noting the fact that the word refers to the loss of consciousness and paralysis On page 763 of the issue of May 31, 1924, you have a report on "Apoplexy of the Breast"

H G W

[NOTE—Thank you! The point is well taken However, the dictionary now defines "apoplexy," by common usage, "copious extravasation of blood into any organ" Strictly speaking, the term should be used to refer only to hemorrhage into the brain or spinal cord—ED]

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted, on request

### CRUMBLING TEETH

*To the Editor* —Please give me some helpful suggestions in the following described case, if you can An Indian woman, aged 29 has crumbling or rapidly decaying teeth The dentist put her teeth in good condition and in the course of six months the fillings all fell out This was not because of poor dentistry, because it was repeated twice and the patient was referred back to me by the dentist I have known the patient since she was a child, and I am naturally interested and anxious to do something for her She had pneumonia in childhood and again after influenza a few years ago, also measles about five years ago, but no other illnesses She had one child several years ago which was healthy but died after a few months Her general health appears good and I can make out no disease She works as a domestic and her diet consists of the food commonly eaten She stated that she did not like milk, but on recommendation is now drinking a pint a day on the principle of its being a dental tissue builder

I M E

ANSWER—It is difficult to answer this question since there are so many factors involved in decay of the teeth In the developmental stage of the teeth, nutrition plays an important part in determining their quality It is also well known that the diseases of childhood affect the quality of the developing teeth The enamel of the human tooth, when completed, is a finished product, and there is no anatomic or physiologic means known by which it may receive nutrient material, after it is completely formed If the completed enamel is fed lime salts, then it must be by some chemical process unknown at this time It is well known that though a diet may contain

ample calcium salts, indicated by large deposits of lime on the teeth in the form of salivary calculus, still the teeth decay rapidly

That foods do exert a marked influence on tooth decay is indicated in the lower animals when their feeding has been changed from the normal The teeth of the highly domesticated dog, and of the horse, fed on food requiring little or no mastication, decay while those of animals living under normal conditions do not

In many instances, when the Scandinavian immigrant comes to this country his teeth soon decay rapidly This can most easily be traced to the change of diet, especially to the greater use of the carbohydrates, to which he had not previously been accustomed Overprepared foods require little mastication, therefore, when eaten, more or less of the starchy elements remain about the teeth Such people rarely use the tooth brush and the starchy particles remain about the teeth and are changed into sugar by the action of the ptyalin of the saliva Fermentation takes place, and decay of the enamel results

The rapid decay of the patient's teeth is probably due to a change from the normal food of the Indian child to the more starchy prepared foods, requiring little or no mastication, and in addition, to the use of an excessive amount of sweets If the saliva and oral mucus are examined, they will probably be found to be ropy, owing to the excess of the sweets

The only suggestion that may be offered is that the patient eat coarser foods which require mastication, and that she thoroughly brush her teeth and gums after each meal Citrus fruits are thought by some to be helpful in such cases

### EGGS AND TUBERCULOSIS

*To the Editor* —A question has arisen whether or not eggs from tuberculous chickens may transmit the disease to a person if the eggs are taken raw Please give some information through Queries and Minor Notes B A P

ANSWER—There have been recognized four distinct types of tubercle bacilli the human type, the bovine, the avian, and the piscine or ichthyc The avian type, like the fish variety, has never been found in man It is found in certain diseases of fowls, but the rabbit is almost the only mammal that shows any great susceptibility to infection by this type of tubercle bacillus The pig is of exceptional interest in this respect, according to Cobbett, it is the only one of the larger domesticated animals that has been clearly shown to be susceptible to infection by all three types of tubercle bacilli, its susceptibility is low, however, to the avian and human types, and in all cases caused by these organisms that have been found, the disease has been strictly limited to the submaxillary gland Since fowls are not susceptible to infection by either the human or the bovine type of tubercle bacillus, and man is not susceptible to infection by the avian type, there seems to be no reason to worry about contracting tuberculosis by eating eggs raw An interesting discussion of the role of the types of tubercle bacilli in human and animal tuberculosis appears in the *Journal of State Medicine* 30 160 (April) 1922

### VISCEROSENSORY PHENOMENA

*To the Editor* —An article by Dr E M Livingston on studies of visceral sensory phenomena outlines these areas for acute biliary disease and acute nephrolithiasis He mentions a sensory triangle for appendicitis, previously mentioned I failed to see the article mentioned Can you inform me of the outline of this triangular area or refer me to the number of THE JOURNAL in which it appeared?

SEWARD L. LANDAUER M D Danville Ill

ANSWER—The skin signs enumerated by Livingston in his previous article (The Skin Signs or Viscerosensory Phenomena in Acute Appendicitis, *Annals of Surgery* 7 83 [July] 1923) are localized within a triangle, the upper side of which is a line from the umbilicus to the highest point on the right iliac crest, the lower side a line from the highest point on the right iliac crest to the right pubic spine, the third side a line from the right pubic spine to the umbilicus Livingston's earlier studies included tests in this area for all forms of cutaneous sensibility, but he finally eliminated all carefully graded stimuli and all tests employing a light stimulus, and narrowed his technic to one form of test, namely, a vigorous twisting pinch of sufficient intensity to produce discomfort on normal skin Such a test becomes exceedingly painful, he says, when applied with the same intensity on an involved zone

# *Medical Education, Registration and Hospital Service*

## COMING EXAMINATIONS

ALABAMA Montgomery July 8 Chairman, Dr S W Welch, Montgomery
CALIFORNIA San Francisco July 7 10 Sec, Dr Charles B Pinkham, 908 Forum Bldg Sacramento
COLORADO Denver, July 1 Sec, Dr David A Strickler, 612 Empire Bldg, Denver
CONNECTICUT Hartford July 8 9 Sec, Regular Board, Dr Robert L Rowley, 79 Elm St, Hartford
CONNECTICUT New Haven, July 8 Sec Homeopathic Board Dr Edwin C N Hall, 82 Grand Ave New Haven, Sec Eclectic Board Dr James E Hair, 730 State St New Haven
DELAWARE Wilmington June 17 Sec Medical Council, Dr H W Briggs 1026 Jackson St Wilmington Sec, Homeo Board, Dr H W Howell 824 Washington St, Wilmington
DISTRICT OF COLUMBIA Washington July 8 Sec Dr Edgar P Copeland Apt 104 Stoneleigh Court Washington
FLORIDA Ocala, June 16 17 Sec Dr W M Rowlett Citizens Bank Building Tampa
HAWAII Honolulu July 14 17 Sec Dr G C Milnor, 401 Beretania St Honolulu
ILLINOIS *Chicago June 24 27* Supt of Regis, Mr V C Michels, Springfield
INDIANA *Indianapolis July 8 10* Sec, *Dr William T Gott No 333* State House Indianapolis
KANSAS Topeka June 17 Sec, Dr A S Ross Sabetha
MAINE Augusta July 15 16 Sec, Dr Adam P Leighton Jr, 192 State St Portland
MARYLAND Baltimore June 17 20 Sec Reg Bd, Dr Henry M Fitzhugh 1211 Cathedral St Baltimore, Sec, Homeo Bd Dr E H Wilsey Chesapeake City
MICHIGAN Detroit June 16 18 Sec, Dr B D Harison, 707 Stroh Bldg Detroit
MISSISSIPPI Jackson June 17 18 Sec, Dr W S Leathers Jackson
MISSOURI *St Louis June 16 19* Sec, Dr Cortez F Enloe, Jefferson City
NATIONAL BOARD OF MEDICAL EXAMINERS Written examinations in Class A Medical Schools Parts I and II June 19 21 Sec, Dr John S Rodman, 1310 Medical Arts Bldg Philadelphia
NEW JERSEY Trenton, June 17 18 Sec Dr Alexander MacAlister State House Trenton
NEW MEXICO Albuquerque July 14 Sec, Dr W T Joyner Roswell
NORTH CAROLINA Raleigh June 23 Sec Dr Kemp P B Bonner Raleigh
NORTH DAKOTA Grand Forks July 1 4 Sec Dr G M Williamson Grand Forks
OKLAHOMA *Oklahoma City July 8 9* Sec Dr J M Byrum Shawnee
OREGON Portland *July 1 3* Sec Dr Urling C Coe, Stevens Bldg Portland
PENNSYLVANIA Philadelphia and Pittsburgh July 8 12 Sec Dr George Becht Harrisburg
RHODE ISLAND Providence July 4 5 Sec Dr B U Richards State House Providence
SOUTH CAROLINA Columbia June 24 Sec, Dr A Earle Boozer 505 Saluda Ave Columbia
SOUTH DAKOTA Sioux Falls July 15 Director, Division of Medical Licensure Dr H R Kenaston Bonesteel
TEXAS Austin June 17 19 Sec, Dr T J Crowe 918 19 Mercantile Bank Building Dallas
VERMONT Burlington June 25 27 Sec Dr W Scott Nay Underhill
*VIRGINIA Richmond June 17 20 Sec*, Dr J W Preston, 720 Anchor Building Roanoke
WASHINGTON *Olympia July 8* Sec Mr Wm Melville Olympia
WISCONSIN Milwaukee, June 24 26 Sec Dr J M Dodd, 220 E Second Street Ashland

### Illinois January Examination

Mr V C Michels, superintendent of registration, Illinois Department of Registration and Education, reports the written and practical examination held at Chicago, Jan 8-10, 1924 The examination covered 10 subjects and included 100 questions An average of 75 per cent was required to pass Of the 69 candidates examined, 43, including 3 drugless practitioners, passed, and 26, including 1 undergraduate and 8 drugless practitioners failed Fifteen candidates were licensed by reciprocity The following colleges were represented

| College | PASSED | | Grad Year | Cent Per |
|---|---|---|---|---|
| American College of Medicine and Surgery | | | (1906) | 80 8 |
| Chicago Medical School | (1923 4) | 75 4 | 76 5 77 4, | 78 |
| General Medical College | | | (1923) | 78 8 |
| Loyola University | | | (1924 2) | 78 3 84 2 |
| Northwestern University | (1898) 81 9 | (1922) 81 5 | (1924 2) | 75 8 82 4 |
| Rush Medical College | | (1922) 83 4 | (1924) | 80 |
| University of Illinois | | | (1924) | 89 8 |
| Tufts College Medical School | | | (1919) | 75 |
| Missouri Medical College | | | (1898) | 83 7 |
| St Louis University | (1913) 83 3 | | (1923 2) | 83 9 86 3 |
| Eclectic Medical College Cincinnati | | | (1896) | 77 4 |
| Meharry Medical College | (1893) 76 6 | (1902) 79 4 | (1919) | 77 4 |
| Vanderbilt University | | | (1915) | 81 6 |
| University of Manitoba | | (1916) 81 9 | (1922) | 84 9 |

| | | |
|---|---|---|
| McGill University, Quebec | (1919) | 84 |
| University of Vienna, Austria | (1909)* | 82 7 |
| University of Berlin, Germany | (1900)* | 82 6 |
| University of Bonn, Germany | (1922)* | 75 8 |
| University of Kiel, Germany | (1904)* | 83 5 |
| University of Wurzburg, Germany | (1922)* | 81 5 |
| National University, Athens, Greece | (1914) | 76 3 |
| University of Budapest, Hungary (1909)* 78 2, | (1915)* | 80 5 |
| University of Jurjev, Russia | (1917)* | 75 7 |
| University of Kharkov, Russia | (1915)* | 77 7 |
| University of St Vladimira, Kief, Russia | (1900)* | 79 4 |
| University of Geneva, Switzerland | (1911) | 75 5 |
| Drugless practitioners | 75, 76, 77 | |

| College FAILED | Year Grad | Number Failed |
|---|---|---|
| Howard University | (1900) | 1 |
| Chicago Medical School (1922), | (1923 5) | 6 |
| Reliance Medical College | (1911) | 1 |
| St Louis College of Physicians and Surgeons | (1918) | 1 |
| Meharry Medical College (1922), | (1923 2) | 3 |
| Western University, Ontario | (1918) | 1 |
| National University, Athens, Greece | (1917)* | 1 |
| Ekaterinoslav State Medical Academy, Russia | (1921)* | 1 |
| University of Jurjev, Russia | (1917)* | 1 |
| University of Zurich, Switzerland | (1911 * | 1 |
| Undergraduate | | 1 |
| Drugless Practitioners | | 8 |

| College LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|
| Howard University | (1906) | Maryland |
| Bennett Medical College | (1914) | Iowa |
| Northwestern University | (1918) | N Dakota |
| University of Illinois | (1916) | Iowa |
| University of Louisville | (1921) | Kentucky |
| Baltimore Medical College | (1909) | Maryland |
| Johns Hopkins University | (1920) | Maryland |
| University of Maryland | (1910) | Maryland |
| Barnes Medical College | (1911) | Missouri |
| St Louis University (1923 2) | | Missouri |
| Woman's Medical College of Pennsylvania | (1910) | Maryland |
| Meharry Med College, Nashville (1907) Kentucky, | (1919) | Arkansas |
| University of Toronto | (1914) | Minnesota |

* Graduation not verified

# Book Notices

METHODS IN MEDICINE The Manual of the Medical Service of George Dock, M D, Sc D By George R Herrmann, M D, Ph D, Instructor in Medicine, University of Michigan Cloth Price $o 50 Pp 521, with illustrations St Louis C V Mosby Company, 1924

There is in most hospitals a notebook handed down from one intern to another which contains favorite nursing methods, laboratory technic, prescriptions and standing orders With the increased complexity of hospital work it is easy to miss essential information, to permit valuable specimens to disappear, and to overlook important details Dr Dock long ago had prepared a typewritten manual for interns to use as a reference book in his service The war showed the great value of some easily accessible written guide, since only a few of the older members of the house staff remained That guide, now issued in book form, includes all the details of work with patients, their relatives and the family physician, the preparation of histories, reports and letters, the making of clinical and laboratory examinations, and the relation of the house staff to the rest of the hospital The chapter of history taking shows standard typical charts The chapters on laboratory methods cover more than 200 pages, a great deal of which the intern has learned, theoretically at least, in the medical school Dr Dock undoubtedly has found that recent graduates require a manual to make a hemoglobin estimation, a routine urinalysis and a blood count This book will be useful to all the persons connected with the daily work of hospitals

GLOSARIO DE SEMIOLOGIA Por los Doctores Hector Seiglie, Profesor Auxiliar de Patologia General, y Jose D Freyre, Medico del hospital Nacional Con la Colaboracion de Francisco J Menendez, Jose Vivo y Paz Jose Tremols, y Alberto Maury Prefacio por el Dr Federico Grande Rossi, Profesor Titular por oposicion de Patologia General Second edition Leather Pp 322, with 44 illustrations Habana Libreria "Cervantes," 1923

In their school days, the authors were apparently impressed with the significance of pathognomonic signs The result is this book, a fairly long, if not complete, collection of medical signs and tests, arranged in alphabetical order In the appendix the material is classified under different headings, such as palpation, auscultation, percussion, laboratory and roentgenology, and partially according to organs and diseases For ready reference purposes, the listing of any number of signs, as many as twenty, under one man's name, must unavoidably entail confusion Some patriotic partiality has also been shown in crediting a number of Cubans with signs—in one case eleven—probably unknown outside their own immediate circle The number of laboratory tests is pitifully small, and, strange to say, the most popular among them all, the Wassermann reaction, is not given The spelling is careless, and the whole series of *facies* (over seventy) is misplaced under *fascies*

DIAGNOSIS AND TREATMENT OF ACUTE ABDOMINAL DISEASES Including Abdominal Injuries and the Complications of External Hernia By Joseph E Adams M B, M S, F R C S, Surgeon to St Thomas Hospital Second edition Cloth Price, $6 Pp 558, with 47 illustrations. New York William Wood & Company, 1923

The first edition of this work, which appeared in 1913, was based on the experience of the authors (Adams and Cassidy) in St Thomas' Hospital A revision of the work was undertaken by Adams, who presents this edition The original chapter headings have been retained, but much new matter has been added, particularly in the first chapter, which has been enlarged by a description of the surgical anatomy of the abdomen Acute abdominal diseases, as a rule, are conditions that demand early operative intervention, and in this country it is thought that such cases are best cared for in hospitals, but the author seems to think that, "in the wealthier class of patients, removal to nursing homes (hospitals) for operation is not desirable if it can be avoided, and as a general rule a patient does better in his own home than elsewhere" In the postoperative treatment of acute peritonitis, the author places considerable importance on the use of vaccines, both stock and autogenous The weak point in his argument, however, is the statement that the vaccines should not be used in less than forty-eight hours after operation The fate of most patients who have been operated on for acute peritonitis is sealed during the first forty-eight hours, and if at the end of that time the operation has not arrested the infection, the patient is dead or dying or on the road to recovery, thus, in either case, the value of the vaccines is more than problematic The use of the terms "subphrenic pyopneumothorax" for the gas-containing abscess and "subphrenic empyema" for the nongaseous form of subphrenic abscess are badly chosen, as anything below the diaphragm cannot be considered anatomically to be within the thorax, and empyema is too well identified with pus in the pleural cavity A final chapter on diseases that may simulate acute abdominal lesions is interesting as showing the various medical affections that may be mistaken for acute abdominal conditions The author has had a large experience, and many helpful practical suggestions will be found in the work

INVESTIGATIONS OF THE THERAPEUTIC RESEARCH COMMITTEE OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION Annual Report, Volume XII, 1923

The Council on Pharmacy and Chemistry of the American Medical Association has been, for some years, promoting financially the investigation of urgent problems in therapeutics These researches are carried out by investigators who receive grants carrying a small fund to cover some of the expenses incurred in connection with the work As the reports of work done under these grants are published during the year in the various scientific journals, reprints are collected and, at the end of each year, bound into a single volume In the past, researches carried out under these therapeutic research grants have shed valuable light on the action of the salicylates, caffein, iodin preparations, digitalis, organic phosphorus compounds, opium alkaloids and hexamethylenamin The present volume includes additional material on the action of digitalis and the standardization of its action on the human heart, a study of silver compounds for their antiseptic efficiency and silver ion content, a series of extensive studies on the biologic reactions of arsphenamin, and a study of the action of calcium in experimental cocain poisoning For those who are interested in these subjects particularly or those who wish to be well informed as to the efforts made

to advance rational therapy through exact experimentation, this collection of reprints offers a convenient and authentic summary of the work done under the auspices of the Therapeutic Research Committee of the Council on Pharmacy and Chemistry that has been published during the past year

# Medicolegal

## Contracts for Specified Fees and "No Cure, No Pay"

*(Guild v Whitlow (Ark), 257 S W R 383)*

The Supreme Court of Arkansas says that the plaintiff brought this action to recover $1,000 alleged to be the balance due him on a contract with the defendant for operating on the latter's sister The defendant testified that the plaintiff told him that an operation would cure his sister, that he paid the plaintiff $500 and promised to pay him $1,000 more if the result of the operation was such as the plaintiff said that it would be What the operation was is not stated by the court, but it says that the patient died in two or three days, as the result of the operation Several physicians and surgeons testified that $200 or $250 would have been a reasonable fee for an operation of the kind The jury returned a verdict in favor of the defendant, on his cross-complaint, for $250, but the judgment therefor is reversed, and the cause remanded for a new trial, on account of an erroneous instruction given to the jury, concerning fees

It is well settled, the supreme court says, that a physician or surgeon may make an express contract whereby he is to receive a stipulated sum for his services, or he may make a special agreement to cure his patient by an operation, or, in case he fails to do so, to receive no pay Special contracts with physicians or surgeons on the principle of "no cure, no pay," are generally held valid They are conditional contracts, and there seems to be no reason why a physician may not enter into a contract whereby his right to compensation may be dependent on his curing the patient entirely by treatment or by operation on him In this connection it may also be stated that, under the testimony of the plaintiff, the agreement of the defendant was an original undertaking, and not a collateral one within the statute of frauds requiring promises to answer for the debts of others to be evidenced in writing

There was error, however, in an instruction which told the jury that, although it might find that the defendant was liable on the contract sued on, still, if he agreed to pay $1,500 for the operation on his sister in reliance on the representations of the plaintiff that this was a reasonable charge for the operation, and that, if the defendant believed this to be true, and did not know whether the charge was reasonable or not, and the jury should further find that $1,500 was an excessive fee, then the defendant would be liable for a reasonable fee only, and would be entitled to recover any excess paid, as shown by the proof It was error to narrow the inquiry by instructing the jury that the right of the plaintiff to recover under the contract depended on whether he represented to the defendant that $1,500 was a reasonable fee, and the defendant, in ignorance of what was a reasonable fee, believed the representations to be true This tended to concentrate the mind of the jury on a single question, and to place too narrow a limit on the plaintiff's right to recover

When the contract was made, no confidential relation existed between the parties, and a contract for the amount of the fee to be charged by a surgeon is valid and unobjectionable, and will be enforced unless there are special circumstances from which it appears that it was induced by fraud or some improper or undue advantage over the patient or the person employing the surgeon There may be cases in which, from the nature of the transaction and the situation of the parties, fraud and imposition may be inferred from the representations of the surgeon that his fee was reasonable Such a case would be one in which there was necessity for an immediate operation and no other surgeon was available Such a case might also be presented in which a party was induced to go to the sanatorium of another and the party was persuaded that an immediate operation was necessary to save his life It may be stated that, in any case of emergency, when the patient or the person making a contract for the patient was laboring under such great excitment or distress of mind that an unconscionable advantage has been taken of him, then the contract will be set aside on the ground of fraud and a recovery for services will be allowed only on a quantum meruit (their reasonable value) Here none of these elements existed If the defendant made the contract as testified to by the plaintiff, his only ground for setting it aside on the ground of fraud was that it was unreasonable This was not sufficient It could not be said that the contract was procured by fraud because the plaintiff charged more than other physicians and surgeons would charge for a similar operation in the same city

## Systolic Blood Pressure Deception Test

*(Frye v United States (D C), 293 Fed R 1013)*

The Court of Appeals of the District of Columbia, in affirming a judgment of conviction of defendant Frye of murder in the second degree, says that only a single assignment of error was presented for the court's consideration on this appeal In the course of the trial, counsel for the defendant offered an expert witness to testify to the result of a deception test made on the defendant The test was described as the systolic blood pressure deception test It was asserted that blood pressure is influenced by change in the emotions of the witness, and that the systolic blood pressure rises are brought about by nervous impulses sent to the sympathetic branch of the autonomic nervous system Scientific experiments, it was contended, have demonstrated that fear, rage and pain always produce a rise of systolic blood pressure, and that deception or falsehood, concealment of facts, or guilt of crime, accompanied by fear of detection when the person is under examination, raises the systolic blood pressure in a curve, which corresponds exactly to the struggle going on in the subject's mind, between fear and attempted control of that fear, as the examination touches the vital points in respect of which he is attempting to deceive the examiner In other words, the theory seems to be that truth is spontaneous, and comes without conscious effort, while the utterance of a falsehood requires a conscious effort, which is reflected in the blood pressure The rise thus produced is easily detected and distinguished from the rise produced by mere fear of the examination itself In the former instance, the pressure rises higher than in the latter, and is more pronounced as the examination proceeds, while in the latter case, if the subject is telling the truth, the pressure registers highest at the beginning of the examination, and gradually diminishes as the examination proceeds

Prior to the trial, the defendant was subjected to this deception test, and counsel offered the scientist who conducted the test as an expert witness to testify to the results obtained The offer was objected to by counsel for the government, and the court sustained the objection Counsel for the defendant then offered to have the proffered witness conduct a test in the presence of the jury This also was denied Counsel for the defendant, in their able presentation of the novel question involved, stated in their brief that no cases directly in point had been found

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimoney deduced from a well recognized principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs This court thinks that the systolic blood pressure deception test has not yet gained such standing and scientific recognition among physiologic and psychologic authorities as would justify the courts in admitting expert testimony deduced from the discovery, development and experiments thus far made

# Society Proceedings

## COMING MEETINGS

American Proctologic Society, New York, June 23 25 Dr Joseph F Montague, 540 Park Avenue, New York, Secretary
Maine Medical Association, Portland, June 25 27 Dr B L Bryant, 265 Hammond Street, Bangor, Secretary
New Hampshire Medical Society, Manchester, June 24 25 Dr D E Sullivan, 7 N State Street, Concord, Secretary
Pacific Northwest Medical Association, Vancouver, B C June 26 28 Dr T Eppler, 422 Paulsen Building, Spokane, Wash, Secretary
Utah State Medical Association, Logan, June 19 21 Dr William L Rich, Boston Building, Salt Lake City, Secretary
Wyoming State Medical Society, Cody, June 17 19 Dr Earl Whedon, Sheridan, Secretary

## AMERICAN SOCIETY FOR CLINICAL INVESTIGATION

*Annual Meeting, held in Atlantic City, N J, May 5, 1924*

The President, DR C P HOWARD, Iowa City, in the Chair

### Toxic Substance in Blood and Urine of Patients with Scarlet Fever

DRS JAMES D TRASK, JR, and FRANCIS G BLAKE, New Haven, Conn Recent studies by Dochez, Mair, and G F and Gladys H Dick have indicated that scarlet fever may be regarded as a local infection of the throat by a particular type of *Streptococcus hemolyticus* that is capable of producing a soluble toxin It is supposed that this toxin is absorbed from the throat and causes the general manifestations of the disease It is furthermore supposed that immunity to scarlet fever, whether existing in a normal person or acquired by an attack of the disease, is antitoxic in nature and that the presence of immunity can be determined in a person by finding out whether or not his serum blanches the rash in a patient with carlet fever, or whether or not he reacts to an injection of e toxin found in filtrates of scarlatinal streptococcus cultures A series of observations on the blood of patients acutely ill with scarlet fever has shown that a toxic substance can be demonstrated in the serum by means of intracutaneous injections of the serum in persons who have not had scarlet fever and whose serums fail to blanch the rash in scarlet fever The reaction caused by this substance consists of a bright red local erythema, varying from 20 to 70 mm in diameter, and of from one to four days' duration The severer reactions are moderately indurated and tender, and are followed by pigmentation and desquamation Control injections in persons whose serums blanch the rash in scarlet fever cause no reaction The toxic substance is not neutralized by mixture with a human serum that gives a negative blanching test, but is readily neutralized by a human serum that gives a positive blanching test It is not neutralized by normal horse serum, but is completely neutralized by Dochez's scarlatinal antistreptococcic serum In a limited number of observations on the urine of patients with scarlet fever, a similar toxic substance has been found in two out of five cases studied Since the toxic substance described appears to resemble the toxic substance found in the filtrates of scarlatinal hemolytic streptococcus culture by G F and G H Dick, and since it is neutralized not only by a blanching serum but also by Dochez's scarlatinal antistreptococcic horse serum, the experiments reported support the conception that scarlet fever is a local infection of the throat by a particular type of *Streptococcus hemolyticus* capable of producing a toxin, which is absorbed and is the cause of the general manifestations of the disease

### The Leukocyte Curve as an Index of the Infection in Rheumatic Fever

DRS C PHILIP MILLER, JR, RALPH H BOOTS and HOMER F SWIFT, New York This study, which has extended over a period of two years, was undertaken to determine whether the leukocyte curve based on counts made at frequent intervals over a long period could be used as an index of the severity and persistence of the infection in rheumatic fever This information is especially desirable, because many of the manifestations of the disease are modified or masked by antirheumatic drugs When the leukocyte curve fell to normal and remained there, the patients went on to recovery without relapse, whether treated by antirheumatic medication or not When the curve remained above from 12,000 to 14,000, or when after the institution of antirheumatic treatment an initial fall was followed by a rise, withdrawal of the drug was always followed by a definite clinical relapse In the patients with predominantly visceral involvement, the persistence of leukocytosis, even though of low grade, usually ran parallel to the other signs of persisting infection, and a fall of the curve to normal was usually an indication that the patient was recovering

### Experimental Studies with Pneumococcus Antibody Solution

DRS RUSSELL L CECIL and HORACE S BALDWIN, New York This antibody affects temperature, blood culture and protective bodies when injected into monkeys with experimental pneumococcus pneumonia These effects were studied in the various types of pneumococcus infection The antibody exerts a protective power against the various strains of pneumococci isolated from patients with pneumonia

### Further Studies on the Significance of Streptococci in the Etiology of Diseases of the Nervous System

DR E C ROSENOW, Rochester, Minn The etiologic relationship of the streptococci to diseases of the nervous system is proved by the experimental production of characteristic symptoms and lesions and by specific immunologic reactions The specific streptococcus forms poisons that have characteristic effects on animals Sections of brains of control animals prove that changes observed are not spontaneous in origin

### Thermodynamic Relations of the Oxygen and Base Combining Properties of Blood

DRS W C STADIE and KIRBY A MARTIN, New Haven, Conn The value of the heat of ionization of carbonic acid ($H_2CO_3$) in whole blood thus calculated is practically the same as in aqueous solutions The heat of ionization of hemoglobin acid per equivalent of ($H^+$) was calculated thermodynamically by means of the van't Hoff isochore from the shift of the BHb-$p_H$ line of whole blood from 38° and 15° The value obtained, 10,000 calories, is in agreement with the directly determined heats of ionization of other proteins The validity of the van't Hoff isochore for hemoglobin-acid in whole blood is thus established The heats of ionization of all the acid radicals of hemoglobin are practically the same This follows because BHb-$p_H$ lines for whole blood are straight lines at both 15 and 38 C and parallel The molecular buffer of hemoglobin is theoretically independent of temperature The magnitude of the heat of ionization of hemoglobin as an acid indicates that a small change in temperature produces a large change in the strength of hemoglobin as an acid The temperature effect on the base and oxygen binding properties of blood is of significance in relation to fever The theoretical predictions are found to be consistent with the experimental data The correction factor for arterial $p_H$ of patients with fever when determined from the carbon dioxid absorption curve at 38 C is $-0.022\ p_H$ per 1 degree C There is a relation between the heat of absorption of oxygen by blood at constant $p_H$ and constant carbon dioxid tension, the heat at constant carbon dioxid tension is 3,000 calories greater than at constant $p_H$

### Studies of the Acid-Base Mechanism in Epilepsy

DR H RAWLE GEYELIN, E J BIGWOOD and MARJORIE A WHEATLEY, New York Observations were made on the acid excretion in the urine of epileptics before, during and after starvation The effects of high fat diets and of feeding certain acids were also studied Comparison was made with the acid excretion in normal fasting subjects The hydrogen ion concentration of the blood of epileptics was compared with that of normal persons

### The Alleged Rôle of Lactic Acid in Arthritis and Rheumatoid Conditions

DR RALPH PEMBERTON, C Y CROUTER and F A CAJORI, Philadelphia The theory that arthritis is caused by an excessive accumulation of lactic acid in the body, first

advanced by Richardson in 1856, later by Foster in 1874, and recently revived, chiefly on clinical grounds, by Wilde, has been tested by quantitative determination of the lactic acid present in the blood, urine, sweat, and joint fluid of patients with chronic arthritis and of normal persons We have used Clausen's method In no case have we observed abnormal blood figures for lactic acid (13 to 26 mg per hundred cubic centimeters) or a urinary excretion of more than a few milligrams per hour (from 4 to 21 mg) Joint fluid approaches blood in lactic acid concentration Sweat contains larger quantities (from 0 1 to 0 4 per cent), the amount present apparently depending on the concentration of sweat, which increases as sweating continues during exposure to heat About 50 per cent of the total organic acid in sweat, as measured, consists of lactic acid The sweat of patients with arthritis, however, contains no larger quantities of lactic acid than the sweat of healthy persons As Clausen's method is not specific for lactic acid, we have satisfied ourselves of the presence of this acid in sweat by its isolation as the zinc salt This has been identified as the salt of *d* lactic acid by its optical rotation and water of crystallization Our sweat samples have been collected in a rubber bag surrounding the patient's arm during an electric 'bake" These results give no support to the view that lactic acid is a factor in rheumatoid conditions, at least so far as to change the composition of the blood, urine or sweat with respect to it

### Facial Characteristics of Gallbladder, Ulcer, Tuberculosis, Pernicious Anemia and Nephritic Hypertension Patients

DRS GEORGE DRAPER and HALBERT L DUNN, New York

This paper presents one phase of the studies on human constitution being carried on at the Presbyterian Hospital Patients are divided into disease groups for comparison of anthropologic measurements The facial measurements of 161 men are analyzed in this report Seventeen of these had gallbladder disease, twenty-one, pernicious anemia, eighteen, nephritic hypertension, thirty, peptic ulcer, and seventy-five, tuberculosis The results with women are practically identical What constitutes a face? The usual conception is a vertical oval limited superiorly by the hair line The anthropologic conception is a horizontal oval limited superiorly by a horizontal line through the nasion Then measurements were used in an analysis of this facial region, nasion prosthion, facial height, facial diameter, bigonial diameter, interpupillary space, infradental menton, nasal height, nasal breadth, palpebral breadth and palpebral length What does the clinician see in the face of his patient? His eye catches a combination of three elements 1 The effect of distribution of soft parts and the variation in expression 2 The effect of actual size For example the male acromegalic face is much larger than the male pernicious anemia face, but proportionately the two are the same 3 The effect of relative size Differences in relative size are demonstrated by indexes and averages Three indexes were used

$$\text{Facial index} = \frac{\text{facial height}}{\text{facial diameter}} \times 100$$

$$\text{Upper facial index} = \frac{\text{nasion prosthion}}{\text{facial diameter}} \times 100$$

$$\text{Eye zone index} = \frac{\text{interpupillary space}}{\text{nasion prosthion}} \times 100$$

These three indexes were charted as accumulative percentage frequency curves A table, based on the arithmetical averages of the data, portrays the relation of the facial diameter, bigonial diameter and interpupillary space in percentage of the facial height and the interpupillary space in percentage of the facial diameter The principal relative differences are Gallbladder and pernicious anemia males have wide faces and wide upper faces Pernicious anemia males have wider lower faces than do gallbladder males, and also far larger eye zones Nephritis-hypertension persons, with tuberculosis males as a close second, have thin faces and thinner upper faces The nephritis-hypertension group, however, have square eye zones, while the tuberculosis type have narrow ones Ulcer patients are intermediate in all respects The nephritis hypertension males appear to be particularly wide eyed because of their narrow faces, while the gallbladder males have the narrowest set eyes in respect to the width of their faces To summarize There are differences, both actual and relative, in the bony skeleton of the face and the eye set in different diseases The clinician can observe differences between the faces of his patients by analyzing separately the effect of soft parts and expression, the effect of actual size, and the effect of relative differences in the skull form and the eye placement

### Results of Iodin Administration in Exophthalmic Goiter

DRS PAUL STARR and J H MEANS, Boston Patients with exophthalmic goiter have been given by mouth 15 drops of compound solution of iodin daily Determinations of their basal metabolic rate, pulse and weight were made daily, or at intervals of a few days, for weeks and months In many cases a great drop in metabolic rate began soon after iodin was started Cases with metabolic rates of plus 50 or 60 fell within a few days to plus 10 or 20, others fell to zero or below This amounted to complete remission of the disease, and is similar to that following subtotal thyroidectomy, the pulse became slow, appetite became normal, nervousness and tremor diminished, and weight increased We feel that iodin produced this crisis, since with a remission in treatment prompt recrudescence of the original disease occurred Most of our patients were operated on or received roentgen-ray treatment after this drop in metabolic rate, but some that were given iodin for several months had, nevertheless, a gradual recurrence The primary drop in the outpatients required about a month, in contrast to the immediate drop in the patients at rest in the hospital After another month the basal metabolic rate increased again, reading its original toxic level in two more months The patients were then successfully operated on Continuance of the iodin probably did not cause the return of the disease, since in those cases in which it was stopped during the recurrence a still greater rise occurred Certain patients receiving compound solution of iodin and roentgen ray simultaneously were at normal limits at the end of five months Another group of cases, including several of exophthalmic goiter and of toxic adenoma, were apparently unaffected by the administration of iodin We conclude that large doses of compound solution of iodin by mouth produce abrupt remission in many cases of exophthalmic goiter The rate of drop is as rapid in these cases as that following subtotal thyroidectomy Iodin is the effective agent, as its withdrawal is followed by abrupt recurrence of the disease Iodin alone, as now given, has not been shown to be sufficient to supress the disease permanently Iodin and roentgen-ray treatment have been successfully combined in the treatment of some cases In some cases, iodin has no apparent effect

### Studies on Metabolism of Obesity

DR SOLOMON STROUSE, C C WANG and M DYE, Chicago Experimental data and a review of reported cases prove that obesity occurs in persons who do not overeat or underexercise The basal metabolism of a large series of obese persons indicates that there are no consistent variations in basal metabolism The special dynamic action of carbohydrate, protein and mixed meals indicates the presence of a deficiency in the fat-burning capacity of the obese

### Estimation of Total Strength as a Means for Measuring the Results of Treatment in Diabetes

DRS REGINALD FITZ and WILLIAM P MURPHY, Boston The present object of treatment in diabetes is to supply patients with food which can be metabolized without glycosuria, acidosis or hyperglycemia, and which yields sufficient energy to conserve weight and strength Therefore it may be desirable to measure accurately not only the loss or gain in body weight that occurs during the course of the disease but also the loss or gain in strength We have estimated the total strength in a series of diabetic cases by the spring-balance method of Lovett and Martin We believe that the method is simple, accurate and inexpensive, and that it yields trustworthy results In normal persons, the total strength remains relatively constant for long periods of time In diabetic patients, the total strength is almost always below

normal before treatment is instituted, but can be made to approach normal by adequate dietetic management Strength is increased by the calories of the diet rather than by the carbohydrate or protein fractions, and is diminished by glycosuria, acidosis, infection or prolonged undernutrition

### Studies on the Nature and Significance of the Action of Trypsin on Insulin

DRS ALBERT A EPSTEIN and NATHAN E ROSENTHAL, New York A highly purified trypsin exhibits two functions a proteolytic, and a milk-coagulating or rennet function These two functions cannot be dissociated Serum inhibits the proteolytic action, but does not interfere with the rennet action Working with such a preparation, the effects of trypsin on insulin were studied in vitro and in vivo, and the following results were obtained 1 The reaction between trypsin and insulin is immediate When trypsin is added to insulin and the mixture promptly injected into suitable animals, no physiologic insulin effects are observed This reaction is favored by low hydrogen ion concentration, and is hindered by high hydrogen ion concentration After the reaction between insulin and trypsin is completed, recovery or rehabilitation of the insulin can be effected by increasing the hydrogen ion content 2 Insulin mixed with blood or serum exhibits its usual physiologic effects in animals 3 In mixtures with serum and trypsin, insulin fails to produce its physiologic effects, thus showing that trypsin combines with it even in the presence of blood or serum 4 This reaction between trypsin and insulin appears to take place in vivo as well as in vitro Injections, into suitable animals, of large doses of insulin, followed by injections of trypsin (within a limited time), fail to exhibit any insulin effects The foregoing observations indicate that the neutralizing action of trypsin on insulin takes place within the body and is not of a proteolytic character 5 Injection of trypsin into the pancreatic artery or branches or into the substance of the pancreas, produces hyperglycemia and glycosuria of variable duration, according to the amount of trypsin injected Because of the structural proximity of the zymogenic and insular cells in the pancreas, the phenomena observed may be of significance in throwing light on the etiology of diabetes

### Energy Transformation at Rest and at Work with High and Low Respiratory Quotients

DRS WALTER M BOOTHBY and CLIFFORD J BARBORKA, Rochester, Minn In a twenty-eight day metabolism experiment on a normal subject, the food intake was known and daily determinations were made of the respiratory metabolism at rest and at work, together with analyses of urine and blood High fat and fasting periods were preceded and followed by normal and high carbohydrate periods The non-protein respiratory quotients at rest and at work did not vary greatly from each other, although the quotients at rest were slightly higher than the quotients at work when above 0 86, and the quotients at rest were lower than the quotients at work when below 0 80 The curves, therefore, of the respiratory quotients at rest and at work crossed when the diet was changed from a high carbohydrate to a high fat diet, in agreement with the findings of Krogh and Lindhardt Another experiment from this laboratory on a diabetic subject thoroughly accustomed to a high fat diet did not, however, show this phenomenon From the beginning of the experiment up to the last day of the fast, the total number of calories required for muscular work was estimated and the glucose available from the diet or glycogen reserves was insufficient to account for the work performed, if it is assumed with Hill and Meyerhof that the reconversion of the lactic acid into its precursor is accomplished solely at the expense of the combustion of a fraction of that lactic acid The data indicate that the heat needed for reconversion under conditions of fasting comes from fat and are consistent with the assumption that, after molecular rearrangement, the hydrogen and carbon atoms of the fat may form a part of the molecule of the reconstructed precursor of lactic acid If such a rearrangement occurs, no evidence of it would be expected in the diabetic organism, as presumably the reaction would not pass through the stage of free glucose and is consistent, therefore, with the conception that total diabetes is a condition in which the tissues cannot utilize glucose

### Diabetes Innocens

DR WALTER R CAMPBELL, Toronto A group of cases of glycosuria differed from diabetes of the usual type in the accidental discovery of glycosuria, the lack of symptoms other than glycosuria, the long duration of glycosuria without development of other symptoms of diabetes mellitus in spite of the lack of dietetic control, normal fasting and postprandial blood sugar levels with glycosuria, blood sugar tolerance tests approximating those of mild diabetes, increase in glycosuria with increased carbohydrate intake but not commensurate with the increase in food, and high respiratory quotients showing carbohydrate utilization and other features incompatible with the diagnosis of mild diabetes mellitus

### Total Inorganic Calcium and Phosphorus in the Blood of Diabetic Patients Showing a Peculiar Symptom Complex

DRS BERTNARD SMITH and HOWARD F WEST, Los Angeles A considerable proportion of patients with diabetes develop a rather definite group of symptoms, which become manifest after they have reached a state of apparently adequate nutrition These symptoms may reach a point of distressing severity Prominent in this symptom complex are attacks of weakness (at times approaching collapse), sweating, coldness, nervousness, paresthesias and stiffness of muscles, with the finding of vascular hypotension, rapid pulse, pallor, cold moist skin and poor muscle tone In occasional instances are seen attacks suggesting a mild tetany This complex occurs most frequently among patients who had become radically undernourished or who previously have had vigorous treatment for some acute diabetic emergency It occurs among patients who have been treated without insulin, but has been encountered more frequently among those who have had this assistance True hypoglycemic reactions have been excluded by blood and urine analyses The finding of a low blood calcium in a few of the patients with more marked symptoms, with a certain amount of relief from calcium feeding, has led to a study of the total inorganic calcium and phosphorus of the blood As a rule, blood was taken just before the noon meal, which was usually not at the time of acute symptoms In twenty-five determinations on twenty patients in good physical condition and not showing these symptoms, total calcium of below 10 mg per hundred cubic centimeters was found in but two, and these had previously experienced similar symptoms, but were vigorous and doing manual work at the time of examination The average for the series was 11 45 mg In twenty-nine determinations on twenty-three patients showing symptoms similar to the foregoing, only seven showed calcium of 10 mg or above The average calcium of this series was 9 01 mg, with 6 4 mg as the extreme low finding Total inorganic phosphorus showed practically the same distribution in the two series, averaging 3 54 mg and 3 57 mg, respectively While the evidence is not sufficient to warrant the assumption that calcium disturbance is the sole or primary factor in this symptom complex, the findings seem of definite significance and are offered as a partial study of the condition

### The Nephropathic Effect of Some Amino-Acids

DRS L H NEWBURGH and PHIL L MARSH, Ann Arbor, Mich One of us has recently pointed out that the renal injury, resulting from high protein diets, might at least in part be caused by the passage of unusually large amounts of some amino-acids through the kidney In order to test this hypothesis, amino-acids have been injected intravenously into rabbits and dogs Glycocoll, alanin, leucin, glutamic acid, arginin and phenylalanin in doses up to 5 gm per kilogram have caused no demonstrable injury On the other hand, histidin, tyrosin and cystin, in single injections of less than 1 gm per kilogram, regularly cause albuminuria and cylindruria, even in dogs, and sections of the kidneys show acute parenchymatous injury The results with tryptophan, aspartic acid and lysin are still in doubt Serin and prolin have thus far not been tested

*(To be continued)*

# Current Medical Literature

## AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days No foreign journals are available prior to 1920, nor domestic prior to 1923 Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested)

Titles marked with an asterisk (*) are abstracted below

### American Journal of Medical Sciences, Philadelphia

167 625 780 (May) 1924

*Electro-Ionic Medication G T Pack, F P Underhill, J Epstein and I N Kugelmass New Haven Conn —p 625
*Pancreatic Function Enzymic Concentrations of Duodenal Contents in Health and Disease C W McClure C M Jones, A S Wetmore and L Reynolds Boston —p 649
*Occurrence of Regular Ventricular Rhythm with Rate over Fifty in Cases of Auricular Fibrillation W Dock and S A Levine Boston —p 664
Right Diaphragmatic Hernia of Short Esophagus Type S Fineman and H M Conner Rochester Minn —p 672
*Hypophysecbasal Area in Relation to Pathogenesis and Treatment of Diabetes Insipidus and Polyuria C E de M Sajous Philadelphia —p 679
*Cerebrospinal Fluid in Lethargic Encephalitis H E Foster, Rochester, N Y, and J R Cockrell Boston —p 696
Possible Relationship Between Current of Injury and Leukocyte in Inflammation H A Abramson New York —p 702
Management of Patients Presenting Essential Hypertension E S du Bray, Berkeley Calif —p 710
*Leukemia Atypical Case B Gutmann New Brunswick N J —p 715
*Relationship of Goiter to Mental Disorders H L Foss and J A Jackson Danville Pa —p 724
*Ultraviolet Absorption Spectra of Cerebrospinal Fluid T Shionoya Tokio Japan —p 735

**Electro-Ionic Medication** —Pack and his associates decided that much of the accumulated data on the so-called electrolytic absorption of drugs had not been collected under control conditions so satisfactory as to warrant sweeping laudations on this method of administration of drugs Consequently, a series of laboratory experiments were performed, some of which are original, others are repetitions under the standardization of controls The experiments cited are in agreement, as a rule, with the work of Turrell in England and Clark in America Both are agreed that "ionic medication" is indicated in local conditions Although deep ionic medication is impossible (excluding circulatory transmission), beneficial results do accrue from the ionizing action of the current alone Halogens, nonmetals and acids, being anions, are introduced by anaphoresis The ingress of some is demonstrably accelerated by the electric current, while in others there could not be demonstrated any acceleration of introduction by the electric current The theory of detoxication of poisonous ions by electrolysis is proved to be fallacious After the administration of iodids, per os or subcutaneously, nascent iodin was liberated within the tissues by the insertion of a positive pole on an electrode This principle may possibly be utilized in the treatment of certain infections However, equally beneficial effects seem to be obtainable by the application of the electric current, per se, as a result of the drastic tissue changes which are produced

**Pancreatic Function** —The main purpose of this study was to devise methods for demonstrating the degree of activity of the external secretory function of the pancreas, and to apply those methods to the investigation of this function in various pathologic conditions involving the gastro-intestinal tract, including the liver and pancreas Normal enzymic concentrations of duodenal contents have been established by McClure et al as a means of estimating pancreatic function Abnormalities in enzymic concentrations were found only in the presence of some lesion involving the pancreas, either primarily or secondarily The findings in normal persons indicate that the essential factors in stimulating the secretion of pancreatic juice are the products of digestion rather than the acidity of the gastric chyme The external secretory function of the pancreas was much depressed below the normal in chronic pancreatitis Obstructive lesions caused great diminution, while acute necrosis often caused dissociation of the concentration of the enzymes In obstructive jaundice estimation of enzymic concentration of duodenal contents is of aid in localizing the site of the lesion, and in the differential diagnosis between its benign and malignant character

**Regular Ventricular Rhythm in Auricular Fibrillation** —As Dock and Levine have seen it, regular and fairly rapid ventricular rhythm occurs in auricular fibrillation only after full doses of digitalis It is always transient, lasting for hours or days It may disappear and return later at a different rate, or the rate may vary from day to day It seems to occur most often in badly damaged hearts Fifty per cent (six) of their patients had severe mitral or aortic lesions, rheumatic in origin, one had syphilitic aortitis and others had myocardial failure without valve disease Five died within one year of the time of observation During this time there were seen 614 cases of auricular fibrillation, nine of which had periods of regular ventricular rhythm, with rates under 48 There were during the same time sixteen cases of complete heart block with regularly beating auricles In twelve of the latter cases of complete heart block, with no digitalis, the average rate was 35 8 beats per minute, while in five such cases treated with full doses of digitalis the average rate was 42 6 The maximum rate in the former group was 45 and in the latter, 60 In one case, included in both series, the rate was 34 without digitalis, six months later, following cardiac failure and continued use of digitalis, the ventricular rate was 55, the auricular rate had fallen from 115 to 90 beats per minute This suggests that digitalis accelerates the ventricular pacemaker when there is auriculoventricular dissociation

**Diaphragmatic Hernia** —The incidence of diaphragmatic hernia at the Mayo clinic is one in 23,000 cases In the case reported by Fineman and Conner the hernia was on the right side It was of the short esophagus type The intragastric tension was the reverse of what is usually found in a normal person In such hernias, on account of the congenitally shortened esophagus, complete reduction of the stomach from the chest into the abdominal cavity is impossible Therefore, for the sake of rational management, every patient with diaphragmatic hernia involving the stomach should have a careful roentgenologic examination with the specific object in mind of determining, so far as possible, the length of the esophagus

**Hypophyseobasal Area in Relation to Diabetes** —Sajous concludes that the beneficial effects of posterior pituitary preparations are accounted for, not by a supposed secretion of hormone in these products, since the actual existence of such a secretion as a physiologic entity has never been demonstrated and is controverted by many facts, but by the recognized pharmacologic property of these preparations of causing constriction of the arterioles This constriction counteracts in the kidneys the dilatation of these vessels, which dilatation is the cause of diabetes insipidus and polyuria so far as their relationship with the hypophyseorenal nerve path is concerned

**Cerebrospinal Fluid in Lethargic Encephalitis** —An amount of sugar exceeding 0 06 per cent was obtained by Foster and Cockrell in 91 per cent of the fluids studied, using the Folin-Wu method, hence quantitative sugar estimations are valuable in differentiating lethargic encephalitis from tuberculous meningitis and as an aid in other conditions presenting similar symptoms The amount of sugar present in the cerebrospinal fluid is not pathognomonic of lethargic encephalitis, but is of recognized utility in making the diagnosis

**Atypical Leukemia** —A case is reported by Gutmann that presented many of the clinical signs and symptoms of an acute leukemia with a high percentage of myelocytes in the beginning of the illness, and with only a slight increase in the total number of leukocytes This was followed by (*a*) gradual diminution in the number of myelocytes and slight relative lymphocytosis, with a return to approximately normal of the total number of leukocytes, (*b*) relatively very slight disturbance of erythrocytes and hemoglobin, (*c*) occurrence of what might be termed a crisis, following which there was slow, but steady, improvement A marked psychosis was considered to be a consequence of the disease A complete symptomatic recovery occurred, both mental and physical

## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

### Annals of Tropical Medicine and Parasitology, Liverpool

18 1 129 (April) 1924

*Malaria Parasite of Chimpanzee B Blacklock and S Adler—p 1
Anatomy of Taenia Festiva G Theiler—p 3
*Two Rare Specimens of Human Cestodes S Yoshida and S Ogata—p 15
Pig Nematode, Gnathostoma Hispidum, as Human Parasite K O R Morishita—p 23
Gastrodiscus Hominis C Lane—p 27
Morphologic Features of Plasmodium Falciparum J W W Stephens—p 33
Pearl Inducing Worm in Ceylon Pearl Oyster T Southwell—p 37
Relative Number of Male and Female Crescents J W W Stephens and R M Gordon—p 55
*Tropical Ear J M Forsyth—p 61
Function of Esophageal Diverticula in Adult Female Mosquito W R Wright—p 77
Mosquito Larvae from North Wales W R Wright—p 83
Isospora of Civet Cats S Adler—p 87
Ornithodorus Moubata in Relation to Relapsing Fever in Gold Coast A Ingram—p 95
Relationship Between Ascarids of Man, Pig and Chimpanzee H Thornton—p 99
Ascaris Lumbricoides Causing Fatal Lesions in Chimpanzee A W N Pillers—p 101
Action of Salivary Secretion of Mosquitoes and of Glossina Tachinoides on Human Blood W Yorke and J W S Macfie—p 103
Classification of Cestode Moniezia G Theiler—p 109
Trypanosoma Evansi and Ornithodorus Crossi W Yorke and J W S Macfie—p 125

**Malaria Parasite of Chimpanzee**—For the malaria parasite which occurs in chimpanzees' blood, Blacklock and Adler propose the name of *Plasmodium reichenowi* in consideration of the fact that Reichenow first found the parasite in chimpanzees The authors were unable to produce malaria in the human by injecting this organism into the blood—nor did the human parasite cause malaria in the chimpanzee

**Rare Human Cestodes**—The two specimens of human cestodes described by Yoshida and Ogata are *Dibothriocephalus parvus* and a remarkable malformation of *D latus*

**Tropical Ear.**—This condition is known in the Malay states as "Singapore ear," but it is prevalent in all tropical or semitropical climates In Calcutta it is called "Calcutta ear," in Java "Java ear," in Hongkong "Hongkong ear," but the comprehensive term "tropical ear," in Forsyth's opinion is, perhaps, more suitable He has examined and made cultures from more than a hundred cases It is a localized infection of the external auditory meatus which does not involve the middle ear, but sometimes, though rarely, extends into it Forsyth is convinced that *Bacillus pyocyaneus* is the cause

### British Journal of Dermatology and Syphilis, London

36 139 192 (April) 1924

Wassermann Reaction as Guide to Diagnosis and Therapy of Syphilis W Fox—p 144
*Macular Erythema in Patient with Traumatic Hematoma in Abdomen C Rasch—p 157

**Macular Erythema Following Trauma of Abdomen**—Rasch reports the case of a man who received a severe blow on the abdomen from a wagon pole A considerable swelling appeared in the lower part of the abdomen, and in addition some flexion of the left hip was noticed, in all probability due to a hematoma in the psoas muscle On the fifth day a diffuse roseola appeared on the trunk and arms The macules were pea-sized, in some places arranged in rings of a bright red color, slightly hemorrhagic As syphilis was excluded absolutely, the rash is believed to have been caused by a resorption of blood and torn muscle tissue The case is interesting as it shows that erythemata of the syphilitic roseolar type are to be observed which are not due to syphilis

### Bristol Medico-Chirurgical Journal

41 49 96 (April) 1924

Evolutionary History of Renal and Temporal Bone Surgery J L Firth—p 49
*Cancer of Breast A R Short—p 64
Grave Cardiac Symptoms Due to Multiple Dental Abscess W R Ackland—p 79

**Cancer of Breast**—Short believes that cancer in the female breast is increasing in frequency Of women over 35, 7 5 per cent will get cancer, and in 1 5 per cent it will effect the breast It is much commoner in women who have not suckled than in women who have In Short's opinion, prevention is best served by advising women to marry, bear children and suckle them properly A series of 106 cases is analyzed Of fifty patients followed for three years or more, twenty-five are alive and well Of favorable cases, 62 per cent of patients are alive and well Five patients are alive and well after eight years In cases of encephaloid carcinoma, Short thinks that the best line of treatment is the use of the roentgen ray first, and removal of the breast afterward One such patient is alive and well twenty months after being first seen

### British Journal of Anaesthesia, Manchester

1 149 204 (April) 1924

Snow's Work on Chloroform D W Buxton—p 149
Modern Developments in Anesthesia S R Wilson—p 159
Results of Operations on Circulation E I McKesson—p 170
*Cardiac Massage A G Levy—p 179

**Cardiac Massage in Syncope**—Levy urges that in cases of syncope occurring during the administration of an anesthetic, if heart massage is done at all, it must be done promptly and effectively It should be commenced within five minutes of the onset of syncope Heart compression, to be effective, should be performed by the hand in the left pleural cavity, the right ventricle being compressed as well as the left Sub diaphragmatic massage is a waste of time Effective artificial respiration must be maintained throughout For cardiac massage to be effective, the cardiac poison present must be a volatile one The heart must be capable of functioning, and all the other vital organs must be in working order Cardiac massage is entirely ineffective in the case of a nonvolatile anesthetic or an autogenous toxin The main use of cardiac massage has been its application in cases of "chloroform syncope" This is a sudden and distinctive form of heart failure, unconnected with overdosage, the heart fails because the ventricles pass into a condition known as fibrillation, when they become absolutely incapable of propelling blood through the arteries There is always a chance of spontaneous recovery from this condition, but after the lapse of two minutes there is no hope of recovery except by means of cardiac massage, there is no other remedy, artificial respiration alone is useless

### British Medical Journal, London

1 737 772 (April 26) 1924

*Capillary Pulsation, Vasodilatation in Aortic Regurgitation T Lewis—p 737
*Treatment of Fractures D P D Wilkie—p 740
*Early Treatment of Fractures C B Heald—p 743
*Value of Feeding During Operations on Stomach H H Brown—p 746
Hydrocele Among Lango of Uganda W P Kelly—p 746
Intestinal Obstruction Due to Adhesions A H Burgess—p 747
Intracardiac Injection of Pituitrin in Asphyxia Neonatorum E H Ramey—p 747
"Slipping Rib" E F Cyriax—p 747

**Capillary Pulsation**—According to Lewis, the evidence as it now stands seems to warrant the conclusion that in all instances of clinical capillary pulsation the capillaries are directly involved, and that the rhythmical change of color, seen macroscopically, is due to pulsatile flow in the minute vessels of the skin, involving always the capillaries, and, perhaps, always involving through these the collecting venules and the venules of the subpapillary plexus

**Treatment of Fractures**—The points stressed by Wilkie are In the case of most fractures it is necessary to reduce the fracture under a general anesthetic In upper limb fractures early active movement is desirable Fractures in the immediate vicinity of the elbow form an exception to this rule In cases of fracture of the lower limb, restoration of the correct alinement and length of the limb take precedence over all other considerations In certain fractures, notably Pott's fracture with partial dislocation, immediate fixation in plaster gives the safest assurance of a good result In compound fractures excision of the wound, with primary suture, should be attempted whenever possible

**Electricity in Treatment of Fractures**—Heald pleads for the use of electricity in the treatment of fractures He makes daily applications of the anodal galvanic current, however, only as a part of the treatment His opinion is based on the results obtained with this method in 758 cases On physiologic grounds the benefit should be obtained from the direct current if used (*a*) with very weak anodal currents, (*b*) with a distant cathode, (*c*) with a wide surface of even entry, such as provided by water, (*d*) with the positive pole more than covering the whole of any muscles involved in the original injury Comparative clinical experiments were made with the use of warm baths only, with diathermy only, and with the cathode instead of the anode, and the results of these experiments afford confirmation of the true beneficial physiologic effects of the anodal current Different results are obtained with different polarities, and the effects obtained are not merely counterirritation effects due to the effect of the hydrogen or hydroxyl ions, the anodal current is definitely more sedative and soothing than the cathodal Diathermy is, up to a certain point, as successful as the direct current, but after this point is reached, there appears to be a weight of clinical evidence in favor of the direct current

**Value of Feeding During Operations on Stomach**—It has been Brown s practice for many years to feed all such patients during the operation by introducing a pint of peptonized milk with a beaten egg and 1 ounce of brandy directly into the jejunum Since adopting this practice he has not lost a single patient from postoperative shock An improvement in the patient s condition is immediately manifest, and the pulse gains in volume and tension It is usual for the patient to leave the table in better condition than he was in before the operation was commenced The method is as follows Before the inner row of catgut sutures surrounding the gastrojejunostomy opening is quite completed, the suturing is stopped, leaving an opening of about a quarter inch or less The jejunal clamp is removed, and the stomach and jejunum are compressed between the finger and thumb of the left hand to prevent escape of fluid A No 10 soft rubber catheter, connected by a short length of tubing to a funnel, is introduced through the opening and passed along the jejunum (the finger and thumb keeping up compression around it), until about 8 inches or more have passed along the intestine into a coil which is within the abdominal cavity The food is then poured slowly into the funnel through a gauze strainer The funnel should be held about 10 inches above the abdominal wall to avoid too rapid entrance of fluid and distension of the intestine The whole process takes rather less than ten minutes The catheter is then withdrawn and the operation completed

1 773 808 (May 3) 1924

Puerperal Pelvic Infection W E Fothergill—p 773
Extended Legs as Abnormality in Fetal Attitude H Briggs—p 774
*Acute Bronchitis T Oliver—p 776
Five Cases of Auriculoventricular Bundle Branch Block. D Hall—p 778
*Duodenal Ulcer Among Medical Men D Forsyth—p 780
*Gonorrheal Iritis E R Chambers—p 781
*Intubating the Esophagus for Malignant Stricture. H S Souttar—p 782
Extra Uterine Pregnancy on Two Occasions F Carson—p 783
Old Standing Dislocation of Radius J W Thomson—p 783
Congenital Absence of One Kidney E R Gilmore—p 784
Tuberculosis of Larynx S Thomson—p 788

**Pathogenesis of Infectious Bronchitis**—What the nature of the interaction is which takes place in disease between micro-organisms and tissue cells is still largely a matter of speculation, but it is more than probable, in Oliver's opinion, that in certain circumstances the surface tension of the tissue cells becomes lowered, whereby micro-organisms which had been lying external to the cells break through the barrier and become intracelular so that disease follows So long as the microbes remain extracellular, persons harboring them must be considered microbe carriers, and as in this relationship the micro-organisms do little harm few, if any, symptoms develop, even though it is probable that antibodies are not produced. As a consequence of atmospheric conditions or of infection, micro-organisms other than those of which these persons are carriers may fix themselves on the nasorespiratory mucous membrane and, giving rise to a type of catarrh peculiarly their own, the catarrh descends into the bronchi It is believed that some gram-negative microbes are capable of lowering the surface tension of animal cells, whereby their own passage into the interior of the cells is effected Here, in their new habitat, toxins, along with antitoxins, are formed —and the patient, till then a microbe carrier, begins to suffer from the disease specific to the micro-organisms concerned

**Duodenal Ulcer and Life Insurance**—Forsyth discusses this subject from the standpoint of mortality and life insurance He asserts that the figures published give no support to the claims to greater effectiveness of either surgical or medical treatment, on the contrary, they show that the results of the two methods leave little to choose between them From an actuarial point of view, it becomes necessary to regard proposals for sickness insurance, when there is a history suggestive of duodenal trouble, as highly unfavorable Such cases should be rejected as uninsurable, though in proposals for life insurance the risk is less

**Gonorrheal Iritis**—Chambers points out that with correct and adequate treatment, not only can this disease in most cases be cured permanently, but, by clearly understanding its origin, entirely prevented

**Flexible Sound for Intubating Esophagus**—Souttar passes a flexible metal tube through the stricture, thus maintaining the lumen of the esophagus The tube does not become foul, hence needs never to be removed He has adopted a simple close spiral of German silver wire, expanded at the upper end It is extremely flexible, absolutely incompressible, is very light, and occupies very little room Food does not tend to cling to it The metal turns black, but this can be prevented by gilding It appears to be possible to leave these tubes in position indefinitely, and they do not show any tendency to ulcerate through the esophageal wall The tube simply canalizes the mass of growth, and it probably never exerts pressure on the esophageal mucosa

## Irish Journal of Medical Science, Dublin

5 147 194 (April) 1924

*Partial Duodenal Obstruction G E Nesbitt—p 147
*Resecting the Left Cervicodorsal Ganglion of Sympathetic in Angina Pectoris A K Henry—p 157
Case of Paroxysmal Tachycardia L Abrahamson—p 168

**Partial Duodenal Obstruction Causes Dyspepsia.**—Nesbitt is convinced that partial duodenal obstruction can be demonstrated in a large proportion of cases with chronic dyspeptic symptoms The cause of the obstruction varies, but the most common is compression by the superior mesenteric artery In Nesbitt's experience it is nearly always associated with an abnormal condition of the colon The possession of a mesentery, i e, mobility alone, is not sufficient, some other factor is necessary, such as descent over the pelvic brim, chronic constipation or loss of tone in the abdominal muscles Treatment consists in regular emptying of the colon with support for the latter by an efficient abdominal belt Failing improvement on these lines, colopexy is indicated, or possibly duodenojejunostomy Four cases are cited

**Cervical Sympathectomy for Angina Pectoris**—Henry approaches the cervical ganglion by the posterior route, that is to say, by a costotransversectomy at the level of the first rib. The seventh cervical spine is the point of a sort of half circle incision which gives a good exposure of the underlying muscles, trapezius, rhomboids and serratus posticus superior, whose origins are divided and the second rib is found and divided from the costotransverse articulation The sympathetic cord can now be seen close to the vertebral body, lying on the pleura like a tape The sympathetic cord is divided between the cervicodorsal and the second dorsal ganglion, also the communications between the back of the gangion and the eighth cervical and first dorsal nerves The right index finger is passed, nail down, into the interval between the ventral face of the ganglion and the back of the vertebral artery, and by gentle traction on the sympathetic cord the ganglion is lifted so that the branches which pass to the artery come into view These are divided Next, the cord which passes up to the middle cervical ganglion is cut The resection of the ganglion is completed by dividing the inferior cardiac nerve

## National Medical Journal of China, Shanghai

**10** 1 73 (Feb ) 1924

Early Diagnosis of Trachoma T M Li —p 1
Incidence of Parasitic Helminths in Soochow K H Li —p 7
Plea for Conservation of Vision in China W P Ling —p 20
Death Rate of Hongkong as Criterion of Mortality in China L Ting An —p 25
Tissue Immunity S Nukada —p 33
Our Place in Field of Medical Education F C Yen —p 35

## Bulletin de l'Académie de Médecine, Paris

**91** 473 492 (April 15) 1924

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Role of Contagion in the Family in Tuberculosis in Children P Armand Delille and A M Famin —p 479
*Abdominal Hysterectomy in Puerperal Infection Auvray —p 481
*Syphilis of the Esophagus J Guisez —p 483
*Vaccination by the Mouth Against Typhoid A Gauthier —p 486

**91** 547 580 (May 6) 1924

Illusions Due to Stereoscopic Vision Beclere —p 564
*Cirrhosis of the Liver A Chauffard and P Brodin —p 569
Ventilation of Infants' Wards J Renault —p 575

**Abdominal Hysterectomy in Puerperal Infection**—Auvray removed the uterus in nine recent cases of extremely grave puerperal infection progressing after curettage In five cases fragments of placenta were found that the curet had missed one uterus had been perforated, cancer was found in one, and in others incipient gangrene and thrombophlebitis Three of the women were saved by the operation

**Syphilis of the Esophagus**—Guisez comments on the extreme rarity of syphilitic disease of the esophagus Improved methods of examination usually reveal simple inflammatory stenosis instead of the supposed syphilitic lesion

**Vaccination by the Mouth Against Typhoid**—Gauthier is surgeon general of the French army, and he here reports his experiences with refugees and others in Greece—a total of nearly 4,000 vaccinations by the mouth The vaccine was taken fasting on three consecutive days In one town where there had been 200 cases of typhoid in two months, only one new case developed after over 1,000 persons had taken the vaccine The previous repugnance of the populace to vaccination was overcome by the change to buccal administration, and the entire population was thus protected although nothing was done to purify the drinking water, the source of the contagion In two large villages the entire population took the vaccine, and the epidemic of typhoid was arrested at once, only four new cases developing, all during the negative phase The reaction to the vaccine by the mouth was slight or nil

**Liver Cirrhosis in Men and Women**—Chauffard and Brodin have observed, since the war, an increase in the proportion of women with cirrhosis of the liver In the last two years, sixteen of their twenty-three patients were women The disease is more polymorphous in them and has a greater tendency to fatty degeneration They believe that men's livers are hereditarily more resistant to alcohol In the discussion, Sergent pointed to the possibility of an increase in syphilis as an adjuvant factor

## Comptes Rendus de la Société de Biologie, Paris

**90** 989 1127 (April 18) 1924 Partial Index

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*Nature of the Virus of Rabies C Levaditi et al —p 994
Complement Fixation in Toxic Herpes Zoster Netter and Urbain —p 997
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Study of the Scaphoid Scapula F de Neureiter —p 1123
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**Nature of Rabies Virus**—Levaditi, Nicolau and Schoen are convinced that street rabies virus is a germ closely akin to protozoa Inoculated in the ultramicroscopic form, it passes through a cycle of evolution and becomes visible in the form of the Negri bodies Fixed virus, on the other hand, is a variety of street rabies virus, modified by mutation It is more virulent for the animals responsible for the mutation, while it is less pathogenic for man and monkeys It has also lost the special pansporoblastic cycle of evolution represented by the Negri bodies It is a most interesting example of mutation of a pathogenic micro-organism by animal passage

**Intolerance to Lumbar Puncture**—Guillain, Alajouanine and Lagrange report disturbance of the optic disk appearing after lumbar puncture in cases of intolerance congestion of the disk with dilatation of veins and sometimes even edema They consider this as a paroxysmal attack of intracranial hypertension caused by hypersecretion by the choroid plexuses due to the withdrawal of cerebrospinal fluid or other changes in the hydraulics of the spine and skull The ophthalmoscopic findings were normal in all the subjects tested who had borne lumbar puncture without headache, vomiting or vertigo, while the optic disk was congested in practically all who had presented symptoms of intolerance

**Metabolism of Cholesterol**—Remond, Colombies and Bernardbeig report the results of twelve experiments made on dogs during digestion The blood in the right heart contained 0 16 gm more cholesterol per liter than in the left, the portal vein had 0 15 gm more cholesterol than the splenic, the splenic vein had 0 16 gm less than the right heart, but almost the same amount of cholesterol as the left heart This proves that cholesterol is stored or destroyed in the liver and in the lungs

## Paris Médical

393 432 (May 3) 1924

Diseases of Nutrition in 1924 Rathery and Kourilsky —p 393
Diabetes Mellitus E P Joslin —p 410
*Renal Diabetes M Labbe —p 417
*Dosage of Insulin A Desgrez et al —p 423
Alimentary Balance and Bone Growth Mouriquand and Michel —p 427

**Renal Diabetes.**—Labbe reports the histories of four patients with renal glycosuria It seems that the disturbance started in three of them together with albuminuria after infectious sore throat Heredity is also a factor Calcium together with parathyroid extract, as recommended by Cammidge, might be tried

**Dosage of Insulin**—Desgrez, Bierry and Rathery reject the animal experiment for titration of the units of insulin It can decide only whether the drug is active The actual individual dosage has to be found out on the patient

## Presse Medicale, Paris

32 365 376 (April 26) 1924

*Fever and Joint Lesions of Protein Origin F Bezançon et al —p 365
Coprologic Signs of Colitis. R Goiffon —p 367
Effect of Albumin on Glycosuria in Diabetes H A Lubbers —p 370
Treatment of Pernicious Anemia by Neisser's Arsenical Method L Chemis e —p 371

**Fever and Arthropathies of Protein Origin**—Bezançon, Weil and Gennes emphasize that a whole series of diseases with fever, arthropathies and local or generalized eruptions are of protein origin, and infection is not a factor Serum sickness is the most complete example, but the Pirquet and Schick tests belong in this group, as well as acute gout and disturbances from absorption of incompletely elaborated proteins through the intestinal organs In a case of essential paroxysmal hemoglobinuria, fever and articular disturbances accompanied the hemoglobinuria

32 377 384 (April 30) 1924

*Treatment of Bimalleolar Fracture Savariaud —p 377
Conditions Favoring Epileptic Seizures P Hartenberg —p 379

**Nonoperative Treatment for Bimalleolar Fracture** — Savariaud believes that nonoperative measures are superior to osteosynthesis in cases of recent fractures of both malleoli After reduction of the fracture by extension, or by spinal anesthesia in cases of muscular contraction he places the hypercorrected foot in a resistant and properly modeled cast till complete consolidation, changing to a walking apparatus the third or fourth week

32 385 396 (May 3) 1924

*Iodin in Prophylaxis of Endemic Goiter M Roch —p 385
*Appendicitis from Foreign Bodies J Berger —p 388
*Vincent's Angina and Etiologic Treatment. J Puig —p 390
Insulin Treatment Outside of Diabetes L Chemisse —p 391

**Iodin in Prophylaxis of Endemic Goiter**—Roch advises in countries with endemic goiter that prophylaxis must be started in intra-uterine life and continued throughout life Iodized table salt is a practical and economical solution of the problem

**Appendicitis from Foreign Bodies**—Berger emphasizes that in many cases of appendicitis from intestinal infection the lesion is due to some inorganic foreign body He reports six cases

**Vincent's Angina and Etiologic Treatment**—Puig emphasizes that the decreased resistance of the mucosa to fusospirochete symbiosis is caused in 5 per cent by some general disease and in 95 per cent by malevolution of the first permanent molars or by a wisdom tooth His conclusion is that this angina has to be treated by building up the general condition and extraction of the tooth involved

32 397 408 (May 7) 1924

The System of Interstices Throughout the Body C Achard —p 397
*Volkmann's Ischemic Retraction Soubeyran and Lenormand —p 401
Experimental Typhoid Sedan and Herrmann —p 403
Subacute Inguinal Lymphogranulomatosis C Gamna —p 404

**Pathogenesis of Volkmann's Ischemic Retraction**—Soubeyran and Lenormand explain the localization of the contracture exclusively in the flexor and pronator muscles by the anatomy of the arterial system in the arm In case of violent compression of the forearm, the circulation stops in the ventrad part but persists in the dorsad, owing to the anastomotic plexus of the elbow The defective circulation prevents oxygenation, and chemical transformations which occur are followed by shortening and stiffening of muscular fibrils They give five illustrations of their experiments

## Progres Medical, Paris

293 304 (May 10) 1924

Paraplegias from Compression of Cord C Achard —p 293
Successful Homoplastic Grafts J Epstein —p 296

**Successful Homoplastic Grafts**—Epstein's experiments on animals demonstrate the importance of compatibility of the blood for the success of homoplastic transplants and of parabiosis The transplant becomes necrotic in a dog whose serum hemolyzes the corpuscles of the donor, and its growth is impaired if the donor's corpuscles are agglutinated The graft may be successful with inverse behavior of the blood

## Revue Franç de Gynecologie et d'Obstet, Paris

19 193 240 (April 10) 1924

*Vaccine Therapy of Adenitis L Chevrier et al —p 193

**Vaccine Therapy of Adnexitis**—Chevrier, Fumery and Dausse give an illustrated description of the technic for obtaining material for an autogenous vaccine, and the results they have been realizing with this treatment since 1922 in cases of inflammatory processes in the uterus and adnexa They gave one or two series of ten injections each and state that the results were conclusively convincing in forty of their fifty cases, as they describe in detail Tuberculosis and albuminuria contraindicate this autovaccine therapy The focal and general reaction testify to the action of the vaccine and guide the course of treatment Acute gonococcus metritis seems to be the most susceptible to this treatment It merely supplements the usual methods but relieves the pain at least, and the lesions often retrogress more rapidly than under other measures

## Schweizerische medizinische Wochenschrift, Basel

54 405 428 (May 1) 1924

*Criminal Abortion T Wyder —p 405
Progress in Roentgen Treatment M Steiger —p 411
*Acid Alkali Balance at High Altitudes P György —p 416
*Traumatic Shock J H and H Oltramare —p 420
Preventive Diphtheria Vaccination W Hoffmann —p 420

**Criminal Abortion**—Wyder discusses the various means proposed to curb the frequency of criminal abortions Enlightening of laymen as to the dangers of it would be valuable Many mysterious sudden deaths of women are due to an embolism from this cause Legal permission for abortions—as nearly happened in Basel—would increase their number and at the same time would enhance the frequency of extramarital intercourse He believes that with very few exceptions it is only the fear of pregnancy, and not morals, which keeps women from indulging in intercourse or adultery Contrary to others, he believes that the woman should be exempt conditionally from punishment only if her testimony aids materially in conviction of the abortionist or when rape is beyond question—especially under the influence of drugs—though he also believes in the possibility of rape on a conscious person He would favor a limitation of the professional secrecy except in cases with attenuating circumstances He regards as such the usual social indications, and conceptions which have occurred as a means to induce the man to marry the woman (*stuprum sub spe matrimonii*) He is opposed to eugenic indications, and prefers castration

**Acid-Alkali Balance at High Altitudes**—Gyorgy found a decrease of the urinary elimination of acids at high altitudes Exertion causes a moderate increase in acidity Spasms from forced respirations ("respiratory tetany") are produced more easily at high altitudes The whole metabolism shows a shifting to the alkaline side

**Traumatic Shock**—J H and H Oltramare observed a lowering of blood pressure in traumatic shock in rabbits with anesthetized bulbar centers Therefore the initial lowering is due to a peripheral mechanism

## Lettura Oftalmologica, Pistoia

1 1 54 (Jan) 1924

*Retinal Hemorrhage in Malaria S Canitano —p 1
*Injection of Milk in Ophthalmology F R Pollice —p 10
*Insulin and Surgery of the Eye in Diabetics P Michelatti —p 21

**Mixed Quinin and Arsenical Treatment of Retinal Hemorrhage in Malaria**—Canitano comments on the frequency with which retinal hemorrhage is found on ophthalmologic examination of malarial subjects It is liable to occur even when quinin is being systematically pushed Excessive heat, overexertion, reading to excess during convalescence, efforts at vomiting etc, are liable to bring it on, the retinal vessels being weakened by the malaria toxin Arsenic on the other hand seems to paralyze the by-effects of quinin on the blood and nerves while it augments the resistance of the blood-corpuscles to toxic influences, and promotes phagocytosis, and its slow elimination enables its general tonic action to be long felt He describes three cases in which the benefit

lower lip on 200 subjects About 28 per cent of them showed a regular distribution, while 29 per cent, who suffered from organic and vasomotor affections, had marked changes All the twenty patients with gastric ulcer presented remarkable irregularities

**Serologic Split Products**—Luttge and Mertz coagulate the serum in Abderhalden's reaction with alcohol This extracts the cleavage products

**Color of Hair**—Mayr observed frequently different colors of single hairs in intermediary types between blonde and brunette The depth of the color increases from the axillary hair to the beard, scalp, eyebrows and pubis The two latter groups were frequently of an identical shade

## Zentralblatt fur Gynakologie, Leipzig

68 785 832 (April 12) 1924

*Micromethod for Sedimentation Test Linzenmeier and Raunert—p 786
*Campaign to Prevent Criminal Abortion T Wyder—p 790
Vagotonia of Pregnancy Knaus—p 798 Idem Louros—p 803
Constitutional Types in Women Kolde—p 805
*Rectal Examination of Parturients P Theodor—p 807

**Micromethod for Estimation of Speed of Sedimentation of Red Blood Corpuscles**—Linzenmeier and Raunert give an illustration of their microsedimeter It is not designed to replace the older apparatus, but merely supplements it, being especially indicated when, for any reason, the securing of more than a drop or two of blood is difficult

**Campaign to Prevent the Criminal Production of Miscarriage and Abortion**—Wyder discusses better methods of apprehending and securing judgments of conviction against professional abortionists, whether laymen, midwives or physicians

**Obstetric Rectal Examination**—While admitting that rectal examination of parturients is often indicated, Theodor regrets that in some instances physicians are using for rectal examination a rubber finger in place of rubber gloves His investigations have convinced him that the danger of the unprotected fingers becoming infected and spreading infection is very great

## Zentralblatt fur innere Medizin, Leipzig

45 337 352 (May 3) 1924

*Nervous Disturbances After Hydrophobia Vaccination K Hajek—p 344

**Nervous Disturbances After Hydrophobia Vaccination**—Hajek describes a case of grave polyneuritis with slight central symptoms in a man who had received fifteen injections of diluted emulsion of cord after having been bitten by a rabid dog Inoculations of the patient's saliva in dogs were negative Therefore, it seems that the polyneuritis was due to the toxic effect of the vaccine in a predisposed man He had previously had sciatica and neuritis of the brachial plexus

## Casopis lekaruv ceskych, Prague

63 689 724 (May 3) 1924

Atrophy and Cirrhosis E Zeman—p 689
*Motor Insufficiency of the Stomach K Klein—p 692
*Complement Fixation in Rhinoscleroma V Tomasek—p 707
*Encephalitic Parkinsonism K Henner and F Baroch—p 709

**Treatment of Motor Insufficiency of the Stomach**—Klein had remarkable results in patients with grave motor insufficiency and dilatation of the stomach treated with lavages and a careful diet The treatment should be tried for three weeks unless there are indications of cancer He observed, however, one patient with cancer who gained 10 kg when treated for an ulcer

**Complement Fixation in Rhinoscleroma**—Tomasek performed complement fixations with the serum from twenty-five patients with rhinoscleroma and twenty-three controls The results were positive in 87 6 per cent of the patients Other encapsulated bacilli used as an antigen gave negative results

**Treatment of Encephalitic Parkinsonism**—Henner and Baroch injected intravenously the cerebrospinal fluid withdrawn from the patients They do not confirm the favorable results claimed by Piticariu

## Acta Chirurgica Scandinavica, Stockholm

56 497 570 (May 7) 1924

Torticollis A Krogius—p 497
*Acute Septic Osteomyelitis E Hedlund—p 513
Early Tuberculosis of the Kidney M Persson—p 525
*Varicose Veins C Bertone—p 539
*A Case of Embolectomy L Perman—p 555
Striation of Muscles P Henriksen—p 559

**Acute Septic Osteomyelitis**—Hedlund reports more rapid healing and better results generally since he has been applying the Carrel-Dakin method of treating acute septic osteomyelitis of the long bones Two of the twenty-one patients thus treated died, and it failed in four others

**Treatment of Varicose Veins**—Bertone aims to modify the circulation in the deeper veins After bilateral ligation of the popliteal vein in the five cases he has treated by this means at Venice, there has been no recurrence of the varicose tendency during the two to fourteen years since the operation in four of the cases, in the fifth case there was recurrence in one leg the thirteenth year

**Embolectomy**—Perman reports the complete return of the normal circulation in the man, aged 46, after the embolus in the common iliac artery had been removed It was reached through a 12 mm incision in the femoral artery by retrograde probing, using a long thin flexible probe, the tip spirally twisted and capped with a tiny ball

## Hospitalstidende, Copenhagen

67 257 272 (April 23) 1924

*Bleeding Gastric and Duodenal Ulcers H Strandgaard—p 257
Disease of the Pituitary E Schmiegelow—p 264 *Cont'd*

**Treatment of Gastric and Duodenal Ulcers**—Strandgaard reiterates that transfusion of blood in cases of profuse hemorrhage from an ulcer not only improves the general condition, the pulse, blood pressure and hemoglobin percentage but acts also on the hemorrhagic tendency, promoting coagulation and functioning He describes six cases in which the benefit was prompt and striking In a seventh case no improvement was observed, and cancer is probable

## Ugeskrift for Læger, Copenhagen

86 383 398 (May 8) 1924

*Modification of Racial Characters Pezard *et al*—p *383*
Some Tropical Dermatoses V Genner—p 385
Carbon Monoxid Poisoning J Sørensen—p 391
*Sterilization of Rubber Gloves T Schultz—p *391*

**Modification of Race Characters.**—By implantation of ovaries in roosters, Pezard Sand and Caridroit induced changes in the plumage as pronounced as the differences between different races of poultry The internal secretion of the ovary seems thus to have a race type determining function

**Sterilization of Rubber Gloves**—Schultz boils the gloves for twenty minutes in strong salt solution (250 gm in 2 liters water) in an enameled vessel with a cover fitting over it Fifteen years' experience with this method has been extremely satisfactory The gloves keep soft and elastic and do not stretch

### CORRECTION

**Splenectomy in Treatment of Hemorrhagic Conditions**—The abstract in THE JOURNAL, May *24, 1924, p 1741, should* read "the sixth case of *essential thrombopenia* cured by splenectomy," instead of "case of *hemophilia*" The boy's history suggested hemophilia and the spontaneous rupture of the spleen compelled emergency splenectomy, without delay for examining the bleeding time and coagulation time and counting the blood platelets The next day the platelets numbered 92,500, and the week after the splenectomy 855,000, but returned to normal range in a few months The retrospective diagnosis was splenogenous hemolytic purpura, and the benefit from the operation ranked it the sixth case of successful splenectomy in this form of *blutungsbereitschaft* In this form the bleeding time is protracted, but coagulation time is normal, and this excludes true hemophilia The authors say that the spleen has evidently a hemolytic action but there may be some hormone influence on the bone marrow in addition, or still other factors But removal of the spleen does away with the most important link in the chain, like thyroidectomy in exophthalmic goiter In the case described, there has been no tendency to hemorrhage since the splenectomy, nearly a year to date

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## THE BASIS OF ALLERGIC PHENOMENA *


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Broadly speaking, allergic phenomena are the manifestations of an altered reaction of the organism, and include all the phenomena of hypersusceptibility For convenience, they may be divided into two classes, (1) the anaphylactic and (2) the anaphylactoid Present methods reveal certain features that appear to constitute differences, if not difficulties, in reconciling the two classes of reactions on a common basis The differences are frequently exaggerated through the employment of vague and loose terminology Many difficulties arise from lack of sufficient evidence On the other hand, there are numerous evidences scattered throughout the literature, including some explanations that are worthy of consideration because they help to clarify the nature of these reactions The important bearing of the subject on biologic phenomena, that is, in understanding the nature of cellular function and responses to different kinds of agents and stimuli, including pharmacologic phenomena, and in therapeutics, has prompted me to summarize briefly the available evidence, some of which is too commonly neglected In view of all the circumstances, therefore, it is believed that such a summary will prove of interest in helping to understand the allergic phenomena

The literature pertaining to the subject is too vast to be considered in detail here Much of this, including the historical aspects, has been covered in recent reviews of anaphylaxis by H G Wells (1921) and Doerr (1922), and will be omitted The scope and purpose of this paper will necessitate adherence to essential facts and criteria We may begin by considering the characteristics of the so-called specific anaphylactic phenomenon, then proceed to the nonspecific or anaphylactoid phenomena, then consider the probable common basis on which they rest and some pharmacological analogies, and finally indicate their practical importance and bearing

### CHARACTERISTICS OF ANAPHYLAXIS AND ANAPHYLACTIC SHOCK

1 A native or complex protein is required, various polypeptids up to octapeptid being ineffective on reinjection On and after the first injection of heptapeptid (hexaglycylglycin), a skin disease characterized by eczema, falling out of hair and necrosis and healing in four weeks occurs in guinea-pigs (Abderhalden and Weil) Tetraglycylglycin and diglycylglycin do not sensitize guinea-pigs (Zunz)

2 Parenteral administration is most efficient, but not absolutely indispensable, as indicated by experimental results with oral administration of egg albumin and horse serum in young guinea-pigs (Shin Maie), clinical results in children (Sztark, Makaroff, Gerstenberger and Davis, Gerstenberger, Clearkin), and transfer of allergy to child by mother's milk (van Leeuwen, Bien and Varekamp, Shannon)

3 A period of incubation is necessary for the development of hypersensitivity

4 This responds typically to reinjection of the same protein with symptoms of anaphylactic shock

5 The symptoms of shock vary qualitatively and quantitatively with the species and method of injection of the protein, intravenous injection being most effective and commonly used

6 Hypersensitiveness is transferable to unsensitized animals by transfusion of blood or serum (passive anaphylaxis), but the shock syndrome is mild and slow in development, requiring from twenty-four to forty-eight hours in guinea-pigs, and anchoring of antiserum is not demonstrable, contrary to the belief of many authors (Shiga)

7 Hyperexcitability of smooth muscle of certain excised organs freed of blood is demonstrable, as indicated by bronchial constriction in the perfused guinea-pig lung, increased contractility of strips of excised guinea-pig uterus, constriction of pulmonary arteries in rabbits' lungs, contraction of hepatic veins with increase in liver volume of cats and dogs, and increase in tone, or intraluminal pressure, of intact dog intestine and bladder (Manwaring, Hosepian, Enright and Porter) Therefore, the seat of the reaction is peripheral and localized in the tissues

8 Histologically, the lungs in guinea-pigs show the presence of marked emphysema, distention and rupture of alveoli, reduction in bronchial caliber, and occasional hemorrhages, emboli and thrombi are denied by some, but platelet thrombi in pulmonary and hepatic capillaries are reported by Zunz, and in hepatic and cerebral vessels by von Behring

9 Definite disturbances in the physical and chemical mechanisms of the blood, plasma and lymph are demonstrable during shock

*Physical Changes*—The coagulation time is variable, but generally tends to be prolonged in dogs and guinea-pigs (Shattuck) Increases in concentration of the blood and nucleated corpuscles in dogs (Richet, Brodin and St Girons), marked thrombopenia in guinea-pigs (Piana, Zunz and van Geerthruyden-Bernard), leukopenia followed by leukocytosis

* Chairman's address read in part before the Section on Pharmacology and Therapeutics at the Seventy Fifth Annual Session of the American Medical Association Chicago June 1924 The remainder of the text the illustrations and the bibliography will appear in the Transactions of the Section and in the author's reprints

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and Langeron) and eosinophilia in guinea-pigs during the hypersensitive stage (Bose) are demonstrable. Flocculation of the plasma colloids or micellae is demonstrable by the agglutinoscope and dispersimeter but not microscopically (Lumiere, Kopaczewski, Kopaczewski and Bern). The surface tension of serum in guinea-pigs is lowered (Kopaczewski), the viscosity of the blood is increased without change in plasma viscosity, the surface tension of the plasma is lowered, and the refractometric index of plasma and congelation capacity are moderately increased (Zunz and La Barre). Flocculation of the serum globulin in the circulating blood and on the pulmonary endothelium in guinea-pigs, together with conglomeration of leukocytes, platelets and globulin, are reported by Zunz. The resistance of erythrocytes toward hypertonic sodium chlorid, and sedimentation speed are diminished, and colloidal behavior of globulin is altered (Wittkower).

Incubation of the serum of a sensitized animal together with the antigen (protein) results in the formation of a precipitate or flocculation, which agrees with flocculation of the plasma in vivo. The precipitin may dissolve in an excess of the antigen (egg white and serum) in vitro (Opie), suggesting a possible physical basis for desensitization or antianaphylaxis.

*Chemical Changes*.—The following are reported: immediate and progressive acidosis, with diminution in carbon dioxid capacity of plasma before and during shock, death being prevented or mortality reduced by administration of sodium bicarbonate to dogs and guinea-pigs (Eggstein); increase in amino-acids, nonprotein nitrogen, serum albumin and hydrogen ion concentration (acidity), with no change in globulin and proteose content, and decrease in fibrinogen and fibrin enzyme in guinea-pigs (Wittkower); increase in amino-acid and urea nitrogen in the blood of anaphylactic and peptone treated guinea-pigs (Hisanobu), and of ammonitrogen in the uncoagulated blood of dogs in shock (Zunz and Gyorgy); diminution in alkalinity (Zunz and La Barre, Hirsch and Williams), with corresponding lowering of surface tension of the plasma, this being greater, the more marked the symptoms of shock in guinea-pigs, according to Zunz and La Barre. However, changes in the alkali reserve and ammonia of the blood in guinea-pigs were not detected by German. In rabbits, increased nonprotein nitrogen, urea and creatinin of the blood in anaphylactic shock are reported by Major. Increase in the non coagulable nitrogen of the liver in guinea-pigs is reported by Pick and Hashimoto, but denied by Barger and Dale. Abnormal nitrogen elimination in excess of nitrogen injected persists for several days in rabbits during shock (Manoilov). Disturbances in nitrogen equilibrium, total solids, blood sugar and $p_H$ values are reported by Rohdenburg, Krehbiel and Bernard. The lipoid content of the plasma is also modified (Jung and Wolff).

10. Desensitization or antianaphylaxis can be produced systemically and locally by treatment with small and increasing or large doses of homologous and heterologous proteins and a variety of other agents and conditions, and any of them is apt to prove successful in clinical practice (Abrami).

11. The immediate cause of death in guinea-pigs is asphyxia from bronchoconstriction, and in dogs and cats, circulatory collapse from deficient blood supply to the heart. The ultimate cause is referred by Kopaczewski to tissue asphyxia in consequence of more or less complete flocculation, edemas, capillary embolism, etc., which obstruct the capillary network.

12. Concerning the elaboration of an anaphylactic poison, namely, "anaphylatoxin," "serotoxin," "apotoxin," "proteotoxin," "peptone," "histamin," "taraxogen" or toxin from disturbed ferment-antiferment balance or ferment action, etc., which has been assumed or suggested by several authors to occur on reinjection of the antigen, and be responsible for the symptoms of shock, none have ever been isolated or demonstrated, all of those suggested being purely hypothetic substances, except histamin and peptone.

This practically disposes of all the theories of shock that concern themselves with specificity (substances or conditions), and leaves the cellular antibody antigen reaction as the simplest conception underlying the shock phenomena, although the interpretation of this by some is still in the specific sense. However, by others it is conceived of as a physical and more universal and nonspecific process (Doerr). Considerable support for the latter conception will be seen in the following summary of anaphylactoid phenomena.

## CHARACTERISTICS OF ANAPHYLACTOID PHENOMENA[1]

Synonymous with this group are reactions, nitritoid crises, idiosyncrasies, hemoclasis, colloidoclasis, the responses of foreign protein, nonprotein, colloid, irritant, protoplasmic activation, proteoclastic, autohemotherapy, hemotherapy and osmotherapy, atopy, allergy, etc. Provocative or causal factors are disease and other conditions, and various agents. Among disease conditions reported as allergic manifestations are urticaria, angioneurotic edema, dermatoses, asthma, hay-fever, purpura, Meniere's syndrome, rheumatism, gout, intermittent hydrarthrosis, arthritis, hypotension, migraine, malarial attacks, serum disease and various protein intoxications and systemic disturbances from trauma, burns, menstruation and in pregnancy.

1. A variety of agents unrelated physically and chemically are effective, native or complex proteins not being required.

The following have been reported or demonstrated to be effective, especially when injected intravenously: nonnitrogenous colloids (agar, tragacanth, pectin, gelose, starch, acacia), colloidal metals and their salts (iron, collargol, arsenous sulphid, mercuric oxid and sulphid, gold), tissue extracts (lung, testicular, coagulen, thromboplastin), serums (beef, human, eel), nitrogenous colloids and mixtures (agarized serum, plant juices, and proteins, peptones, proteoses, pancreatin, milk, casein, peptonized milk), organisms and vaccines (bacteria, kala azar, trypanosomes, tuberculin, antityphoid vaccine), arsphenamin, coal-tar derivatives (acetylsalicylic acid, paraphenylendiamin [Ursol], antipyrin), histamin, salts of heavy metals (copper sulphate, antimony and potassium tartrate), adsorbents (kaolin, India ink, charcoal, barium sulphate, fullers' earth), salts (iodid, nucleate, citrate, oxalate, bromid, protalbinate), hypertonic solutions (10 per cent sodium chlorid, glucose and sucrose, 50 per cent, hexamethylenamin, 40 per cent), tannin, glacial acetic acid, congo red, copaiba, gentian violet, camphor oil, ricin, tincture of iodin, iodoform, and alkaloids (quinin, emetin).

Calcium salts do not cause anaphylactoid phenomena in guinea-pigs. They prevent or inhibit experimental edemas and clinical allergic manifestations, owing presumably to their power to lessen cellular permeability and indicating indirectly, therefore, the possible physical basis for the reactions produced by many agents.

2. The phenomena occur chiefly, but not exclusively, after intravenous injection, intraperitoneal and hypodermic injections also being effective, though much more slowly and less intensively. Intracarotid and cardiac injections are highly effective.

3. A period of incubation, and sensitization or preliminary injection are not required, the effects occurring immediately or rapidly after injection, if at all.

4. The symptom complex is similar to and almost indistinguishable from that of anaphylactic shock in

1. Many references not entered here will be found in the papers by Hanzlik and Karsner.

guinea-pigs, and from certain agents (histamin, peptone) is similar to that in dogs and cats

5 The symptoms vary with the species, form and dosage of the agent, functional state and method of administration, uniformity of response in different species being favored by intravenous injection

Intraperitoneal administration is effective with copper sulphate, glacial acetic acid, histamin, and hypodermic with serums tissue extracts, histamin, proteins, secretions (milk), oxalate and colloidal metals Out of fifty-three agents representing all the different classes in "1," the majority (or forty-five) gave definite symptomatic responses by intravenous injection in guinea-pigs (Hanzlik and Karsner) Intracardiac and carotid (cerebral) injections are also effective with serums, agar, barium sulphate, arsphenamin (Lumiere and Couturier) With certain agents (agar, starch, acacia, tissue extracts, peptone, arsphenamin, histamin, milk serums, antityphoid vaccines citrate, collargol, oxalate, barium sulphate, copper sulphate) nearly identical symptoms have been demonstrated in at least two and usually three out of the following several different species guinea-pigs, pigeons, rabbits, dogs, horses, goats and man (except barium sulphate [Loewit, Hanzlik and Karsner, Bouquet, Zunz, Bordet, Dale and Kellaway, Lumiere, Dunn and many clinical reporters]) Guinea-pigs, horses goats and man respond readily, pigeons less, and rats are refractory The symptoms consist of increased reflex excitability, rapid respiration and dyspnea, sneezing, retching, jerky spasms, slowing or acceleration of the heart, trembling, expulsion of urine cyanosis, pupillary relaxation, convulsions, and death with the larger doses A fall of blood pressure with slowing and increase or decrease in volume of the heart occurs, depending on the severity of the response and extent of pulmonary blockage Marked pulmonary inflation with edema, emphysema and frequently hemorrhages occur in guinea-pigs and dogs Increase in pulmonary arterial pressure is demonstrable after histamin, peptone and tissue extracts, due to reduction in bronchial caliber from spasm and edema or thrombi or both (Abe), and after arsphenamin in dogs (Jackson and Smith) In unanesthetized dogs, the fall of systemic blood pressure from primary albumose (peptone) and histamin is accompanied by reddening of the skin (capillary and venule relaxation) and edema of the face and head (Abel and Geiling, Geiling and Kolls) Increase in temperature in animals is produced by the intravenous injection of finely divided starch animal charcoal (Albert and Stricker, Billroth) and by colloidal suspensions of silver, iron and arsenic, paraffin (Bock, Heubner and Frey) and "anaphylatoxin" (Friedberger) Hypodermic injections of albumose, peptone, serum, organ extracts, milk and casein also raise the temperature (Matthes, Krehl and Matthes)

In human subjects, a considerable range of symptoms of variable severity occurs, namely, general excitation, sweating precordial distress, tremors cough, dyspnea, chill, chattering of the teeth flushing of the skin (face) rapid pulse, increase in the temperature (fever), nausea, vomiting, vertigo, headache, joint pains, cyanosis, fall of blood pressure, collapse and sometimes death Deaths are reported from arsphenamin, collargol (Lesne) peptone, serums, antityphoid vaccine, acacia (Lee, Olivecrona) and camphor oil (Fabricius) intravenously From 30 to 50 per cent of patients receiving citrated blood show reactions (Lederer Lewisohn) In this connection it is interesting to note that the toxicity of citrated blood is subject to physical influences for it was noted by Freund that citrated blood, if untouched, is nontoxic, but if shaken with beads toxicity develops, causing a fall of blood pressure, cardiac depression in intact animals and constriction of the peripheral arteries uterus and intestine

6 Increased sensitivity is believed not to be transferable by transfusion of blood or serum of treated to untreated animals However, such an experiment could not be decisive because the intravenous injection of many agents alone suffices to produce the anaphylactoid phenomena, wholly or partially

7 Increased excitability of smooth muscle of excised organs has not been demonstrated directly with the majority of agents in "1" Exceptions are histamin peptone, serums, tissue extracts, congo red and quinin, which tend to increase the excitability, and certain paradoxical actions in which the response of an organ is only obtained, or altered to an agent, by previous treatment with a relatively inert substance Many such instances are known in pharmacology and will be dealt with separately Here it should be noted that the failure to obtain actions with certain agents on excised organs may be attributed to the failure to establish the proper conditions

8 Histologic changes, especially in the lungs of guinea-pigs, are more prominent than in those of anaphylactic shock, being characterized by reduction in bronchial caliber, congestion, hemorrhages, emboli and thrombi composed of platelets, red blood corpuscles and fibrin and perivascular and peribronchial edema

9 Definite and marked disturbances in the chemical and physical mechanisms of the blood and tissues are demonstrable with a variety of agents, being in some respects more striking than those of anaphylactic shock

*Physical Changes*—The coagulation time of shed blood may be unchanged or prolonged, depending on the nature of the agent and extent of platelet agglutination or destruction or both The following tend to lessen coagulation kaolin, charcoal, peptone, protalbinate, arsphenamin, oxalate (Hanzlik and Karsner), and toxified agar (Zunz and La Barre) Arsphenamin prevents coagulation in vitro and in vivo, perhaps by direct combination with fibrinogen (Anwyl-Davies and Mellanby) Intravascular clotting occurs from lung extract (Mills) and human plasma (Levinson) intravenously in rabbits and guinea-pigs, respectively Increase in coagulability from 10 per cent sodium chlorid intravenously is reported by Schenk Leukopenia, followed by leukocytosis and eosinophilia, occur as in anaphylaxis, also with 10 per cent sodium chlorid (Hauer)

Agglutination of platelets, with increase in number, or followed by their disappearance, presumably depending on the time of observation, is a common phenomenon in several species and with different agents, namely, with agar and starch "anaphylatoxins" in guinea-pigs (Dale, Dale and Kellaway), with different agents from each of the groups in "1" in pigeons (thrombocytes [De Eds and Somerfield]), with nitrogen-free agar toxified (Bordet and Zunz), and with histamin in cats (Dale and Laidlaw) In hemoclastic crises, the number of platelets is reported to be diminished (Cattoretti) Agglutination in reactions of patients to citrated blood is asserted to be present by Lederer

Hemagglutination occurs with many agents in vitro, and correlates to a considerable extent with the occurrence of thrombi and emboli from the same agents in vivo, including such diverse agents as agar, acacia, histamin and arsphenamin and many others (Hanzlik and Karsner, Jean Oliver et al)

Rapid sedimentation or suspension instability of red blood corpuscles of drawn blood is intimately connected with the agglutination of corpuscles, or platelets and corpuscles together The phenomenon is essentially a flocculation due to an alteration of the surfaces of the red blood corpuscles by a number of physical changes known to influence corpuscles and to occur in the blood and plasma, namely, changes in viscosity, reaction ($p_H$) ratio of albumin to globulin and also to fibrinogen, lipoid and salt content of the blood and plasma, the reduction of electrical charges, adsorption on and swelling of the corpuscles the isoelectric point of the proteins etc

Flocculation of the plasma and serum, and in the blood, is reported to occur from injected agents chemically indifferent, such as peptone agar and starch, and just as in anaphylactic shock (Gautrelet) The flocculation is not always recognizable by ordinary methods requiring special apparatus (agglutinoscope) or arrangements for a demonstration of it, and even intracardiac injection tests after treatment of the solution by electrophoresis just short of visible flocculation (Lumiere) Treatment of serum with pectin and gelose (agar) (Kopaczewski and Gruzewska) causes flocculation in vivo, and this as well as the toxicity can be prevented by lowering the sur-

face tension or increasing the viscosity of the fluid. The stability of plasma can be altered by acids, alkalis, neutral salts, pepsin, peptone, agar, acacia, gelatin and glycin, and also by increase in temperature (Starlinger). Against the assertion of several authors that flocculation bears on toxicity is the statement by Neuweiller that the occurrence of flocculation in both active and inactive serums by agar, starch and bacterial suspensions did not parallel poisoning or detoxicating action.

The physical changes in blood and plasma resulting from the injection of foreign agents, serums, etc., are increase in viscosity, and lowered surface tension of the blood, the plasma being unchanged in guinea-pigs receiving serum treated with agar (Zunz and La Barre). Increases in viscosity of the plasma and fibrinogen, decrease in surface tension and changes in the ratio of albumin to globulin (increased globulin), are reported after injections of proteins by Lohr and Lohr.

*Chemical Changes.*—Dilution of the blood, diminution in carbon dioxid, increased hydrogen ion concentration (acidity), unchanged urea nitrogen with agents from all the groups, and variable phosphate and increase in lactic acid contents of blood with some agents in "1" occur in dogs injected intravenously (Hanzlik, De Eds and Tainter). Such bloods show simultaneous physical changes of darkening, hemolysis and rapid sedimentation and agglutination of corpuscles. Partial confirmation of these changes in chemical composition of the blood is seen in the report of Denis and von Meysenburg, who found a decrease in carbon dioxid content and lowered $pH$ values (from 7.4 to 7.28, acid tendency) after injections of sodium chlorid and sodium sulphate in dogs, sodium bicarbonate ($NaHCO_3$) having produced opposite changes. Convulsive movements occurred after all these salts. Urinary changes in the expected direction after injection of phosphate in fasting dogs are reported by Hendrix and Saunders, namely, increase in renal excretion of titratable acid and ammonia, the combining power of the blood being increased. Increase in noncoagulable nitrogen of the liver in normal guinea-pigs after subcutaneous injection of horse serum, caseosan, peptone and venesection is reported by Freund and Rupp, and in this increase the central nervous system appears to be involved because section of the cord in rats and guinea-pigs also produced a sudden increase in the liver nitrogen (Freund and Laubender). The lipoid equilibrium of the blood appears to be disturbed by peptone, as indicated by increases in the total fatty acids content (Jung and Wolff), and in the phosphatid and cholesterin content of the blood for several hours in patients after receiving injections of small doses of collargol, caseosan, hypertonic sodium chlorid, glucose, sucrose, argochrome and horse serum, while larger doses gave a preliminary decrease followed by an increase (Grabbe). In peptone shock of dogs, the free and combined uric acid of the plasma are reported to be increased (Hedon, Cristol and Nikolitsch). Large increases in blood urea are reported by Marie after subcutaneous injections of lecithin, cholesterol, nicotin, quinin, morphin, colloidal silver and ether. Intravenous injections of milk and serum into young animals is always accompanied by changes in the hydrogen ion concentration ($pH$) of the serum, but repeated injection restores the $pH$ to normal, according to Mendeleef. Injections of 0.25 per cent gelose and 10 per cent peptone also produce a marked fall in $p_H$ value of the blood, lowering of the values apparently being produced with successive injections only if some colloid is employed (Mendeleef). In children, intramuscular injections of boiled cow's milk and of plant protein appear to increase the intermediary metabolism, as indicated by increased elimination of acid phosphate (lowered $pH$ values) and ammonia followed by an increase in alkalinity in the urine, and prevention or reduction of epinephrin hyperglycemia during the alkaline phase (Vollmer). Marked increases in respiratory gas exchange and heat production with increase in temperature by from 1 to 1.5 C. lasting from four to eight hours are reported by Sanger after intravenous injection of milk into dogs. During shock from the intravenous injection of typhoid vaccine into patients there is an increase in urea nitrogen and nonprotein nitrogen, and decreases by from 4 to 8 per cent of the carbon dioxid combining power of the plasma up to 150 mg. of total lipoids, and of sugar from 10 to 30 mg. per hundred cubic centimeters of blood (Greenthal and Brown). Intravenous injections of typhoid vaccine into patients (eight), and of typhoid vaccine and proteoses into dogs greatly reduce the alkali reserve of the plasma during the shock symptoms, and administration of sodium bicarbonate retards the fall of alkalinity and relieves the distressing symptoms, according to Eggstein.

10. Desensitization (prevention of the shock syndrome or reactions from different substances) can be produced by a variety of agents, some of which act by preventing flocculation or aggregation and other physical changes in the blood and tissues, and others by alleviation of circulatory and respiratory symptoms. Desensitization by the administration of small doses of various drugs, namely, antipyrin, quinin, acetylsalicylic acid, arsphenamin, etc., is claimed by many clinical observers. Lumiere and Conturier report protection against fatal shock from barium sulphate suspension by preliminary intracardiac injection of serum and vice versa, that is, successful protection against protein anaphylactic shock by preliminary injection of barium sulphate (before antigen) and also against shock from gelose (agar) treated serum. If this is true, the method of preliminary injection of small doses of protein antigen in preventing anaphylactic shock indicates nothing peculiar or specific about the procedure. Violle, however, reports that antianaphylactic vaccination was not effective with the colloidal metals in guinea-pigs and rabbits.

11. Death in animals receiving intravenous injections is due to circulatory collapse and paralysis of the respiratory center from the asphyxia resulting from bronchial and alveolar compression and impaired ventilation, due in turn to blockage of the pulmonary capillaries by stasis, emboli, thrombi, endothelial adsorption of agglutinated masses, peribronchial and perivascular edemas, hemorrhages, etc., and perhaps capillary blockage in other organs, especially the liver, brain and medulla (Loewit, Hanzlik and Karsner, P. Schmidt, Kopaczewski, Zunz, von Behring, et al.).

12. Concerning the elaboration of toxic substances as a result of the injection of various agents causing anaphylactoid phenomena, none occur or are demonstrable. Many of the agents provoking the reactions are themselves relatively inert chemically and pharmacologically, except when administered parenterally, usually intravenously. The nearly identical systemic reactions and histologic changes from totally unrelated agents, such as agar, histamin, kaolin, copper sulphate and proteins, speak against the production of a common toxin, but rather indicate the operation of some common physical cause or causes.

### PROBABLE COMMON BASIS

From these summaries it is indicated that nearly identical symptomatic, blood and tissue changes characterize the groups of anaphylactic and anaphylactoid phenomena. There are two features, namely, the period of incubation and the hyperexcitability of isolated smooth muscle, that appear to be peculiar to anaphylaxis. The period of incubation is unnecessary with all, and the hyperexcitability of excised smooth muscle has not been demonstrated with many of the agents causing anaphylactoid phenomena. Among those which can produce direct stimulation of smooth muscle are peptone, histamin, certain serums (old and specially treated), certain tissue extracts, and congo red. All of these agents or their constituents and most drugs that can stimulate muscle directly are composed of smaller molecules or aggregates than the fresh native serums and the complex colloids such as agar, acacia and others which do not stimulate because they diffuse slowly and cannot penetrate or alter cell surfaces readily and react

with the muscle substance Or, in other words, the apparent lack of muscular stimulation by certain of these agents (using ordinary experimental methods) may be due to a lack of suitable conditions enabling them to diffuse into and penetrate the cell surface and react with the muscle substance The slow diffusion, reaction and penetration of native protein (serum) used as "sensitizer" in anaphylaxis requires time, and, hence, the time interval or incubation period for alteration of the muscle and other cells, rendering them more readily and promptly permeable to the reinjected protein (homologous or heterologous) Thus, it seems that the differences can be reconciled according to some physical conception of the mechanism underlying both sets of phenomena This may be conceived of as having to do essentially with the state (fineness of dispersion) and reactivity of agent and of cellular permeability, and would be the same for the anaphylactic reaction from protein and the anaphylactoid reactions from various agents These matters have not been tested in the special cases at hand, but are known to be applicable in other directions in biology, and the idea will be developed further on

Another difference pertains to the histologic changes, especially in the lungs, which appear to be expressed qualitatively and quantitatively differently in the two sets of phenomena That is, the changes seem to be less evident and extensive in anaphylactic shock, as indicated by flocculations, less pronounced edemas, irregular hemorrhages and embolism, as compared with the more marked and uniform agglutinations, emboli and thrombi, hemorrhages, and edemas among the anaphylactoid phenomena There is no doubt that the changes that have been described by morphologic methods (especially when employed conjointly with physiologic methods) have assisted materially in revealing similarities between the anaphylactic and anaphylactoid phenomena The histologic differences may be regarded as representing different degrees of the same phenomenon, and if the analysis is carried far enough, it may be said that the underlying cause is the same For instance, colloidal aggregation on cell surfaces, which is suggested from the flocculations, emboli, etc, would, according to Hober and Burridge, mediate stimulation, and, the lack of it, no change or depression Therefore, the changes in functional activity that occur would be accounted for The aggregation is, of course, intimately connected with the state and reactivity of the agent and cell surface permeability indicated above, and also with changes in ionic equilibrium, surface tension, osmotic pressure and electrical potential of cells This line of thought is tempting for a general theory However, it is deemed unprofitable to push the argument too far as long as physical and colloidal chemists are not agreed as to the exact manner of operation or as to the methods of analysis (Svedberg) of many of the forces that would have to be considered in such a theory, and especially when applied under conditions of the living complex organism For the present, it is safer to adhere to the facts The evidences taken as a whole indicate that the basis of anaphylactic and anaphylactoid phenomena, collectively the allergic phenomena, is a disturbance in the physical and chemical (colloidal) mechanisms of the blood and tissues The net result of such physical and chemical changes is the mediation of stimulation and depression resulting in alteration of physiologic functions, commonly recognized by symptoms, or "reactions," etc

This gives the allergic phenomena a broad significance in biology, and, therefore, in pharmacology and therapeutics, since they assist in revealing the nature of cellular function and of drug action There are reasons to believe that the pharmacologic actions of many agents are concerned essentially with such physical-chemical disturbances as occur in and are probably responsible for the entire group of allergic phenomena A few illustrations of the operation of such changes in excised and intact organs will serve to emphasize the mutual relationship enjoyed by allergic and pharmacologic phenomena

## PHARMACOLOGIC ANALOGIES

Camphor, a circulatory stimulant under certain conditions, depresses or inhibits the normal cardiac muscle, but, if the heart is previously depressed with bile compounds (agents which lower surface tension) and then is treated with camphor, stimulation occurs Xylene, soap, ether, and charcoal act similarly to camphor (Wieland) It restores to activity (stimulation) hearts that have been stopped by charcoal and chloroform (Frohlich and Pollak) Again, muscarin inhibits and strophanthin stimulates the heart muscle, but treatment with camphor removes both the inhibition and stimulation by the respective drugs (Tschernewa and Riesser) This is not a chemical action of the camphor, but indicates purely physical changes taking place in the cardiac muscle, perhaps suppression of surface permeability This may explain the variable therapeutic responses of the heart to this remedy In the presence of an excess of calcium, muscarin stimulates instead of inhibiting the heart, calcium also prevents diastolic standstill from arsenic and quinin, and, in excess, alters the diastolic standstill of potassium and chloral to a systolic standstill (Zondek) This illustrates how the functional response to drugs can be altered by an alteration in ionic equilibrium and perhaps also by permeability Ordinarily, epinephrin accelerates, and increases the systolic tendency of, the heart, but if the heart is first subjected to calcium deprivation, then epinephrin slows and relaxes the organ, showing that a sympathetic may be altered to a parasympathetic (vagus) action (E P Pick), just as muscarin (parasympathetic) action can be altered to the opposite action Tanned red blood corpuscles (immersed in tannin) hemolyze very slowly with various hemolytic agents, and this appears to be due to precipitation with the formation of an impermeable skin on the cells, but the same effect is obtained by immersion of the cells into sucrose and certain narcotics With the latter agents, the aggregation of the cell surface is not so apparent as with tannin, but may nevertheless be present ultramicroscopically

In the same direction are the following effects on living structures previously treated with tannin, namely, prevention of strophanthin standstill of the frog's heart, and increased irritability of frog's nerves depressed by cocain (Handovsky and Masaki) Normally, the tone of the bronchi is not altered by epinephrin, but, if the bronchial musculature is previously excited, as in asthma, or by barium, pilocarpin or histamin, epinephrin causes relaxation, and therefore, quite independently of innervation or the nature of the muscular excitant This illustrates how alteration in functional state alters the response of a mechanism and explains why epinephrin is beneficial in asthma, irrespective of the cause Ordinarily, a rise of blood pressure occurs when epinephrin is injected intravenously, but if fluid extract of ergot or ergotoxin (which also raises the blood pressure) is injected

previously in adequate dosage, succeeding injections of epinephrin produce only a fall of pressure Similar reversals of epinephrin action by ergot or ergotoxin can be obtained on excised vessels, and also in the excised virgin uterus (Clark and Broom) In this reversal it is assumed that the vasoconstrictor nerves are paralyzed by ergotoxin However this may be, the phenomenon nevertheless illustrates an alteration in response of a mechanism (sympathetic endings) toward a drug (epinephrin) which ordinarily stimulates the same mechanism, by another drug (ergotoxin) which first of all stimulates it and then renders it unresponsive (paralysis) Marked sensitization of the sympathetic nerves to epinephrin can be demonstrated by preliminary injection of an ineffective dose of cocain (Frohlich and Loewi) or of thyroid extract (Asher and Flack)

Many other illustrations could be given, but these few will serve to emphasize that alterations in functional activity (allergies) of cells are not limited merely to protein anaphylaxis The functional responses to drugs can be altered similarly, that is, through the intervention of physical-chemical forces, and at will by a variety of agents, including drugs As a matter of fact, such allergies are widespread in biology A proper appreciation of all this, therefore, is of importance in understanding the nature of pharmacologic phenomena and an asset in therapeutics

## PRACTICAL CONSIDERATIONS

From what has been said, it is clear that physical and chemical changes in the blood and tissues may always be expected when agents reach the blood stream in effective concentration, and especially when they are introduced directly into it This is due, firstly, to the rôle of the universal phenomenon of adsorption, and, secondly, to changes in functional activity of the cells resulting from the contact Hence, corpuscles, plasma and endothelium of the vessels will be affected immediately, and then the tissues and organs, among which the heart and lungs come first The final result will depend on the influences of several factors, such as the nature of the agent, its dosage or concentration, the state of the physiologic functions, the operation of defensive mechanisms (absorption, excretion, destruction, etc), and perhaps other factors The outcome may be no demonstrable change, stimulation or depression and the therapeutic result, no change, beneficial or detrimental All of this bears on the therapeutic employment of the allergic phenomena, and on intravenous medication

*Therapeutic Use*.—Several of the agents mentioned under "anaphylactoid phenomena" in this paper are employed empirically for the alleviation, if not cure, of disease conditions whose symptoms they reproduce wholly or partly (synergistic action) This is followed by the alleviation or suppression of the symptoms subjectively and objectively (antagonism) Curiously, diseases with unknown etiology (rheumatic fever, arthritides of various kinds, etc), and symptoms of unknown origin, especially pain, fever, and chronic inflammatory processes, appear to respond most favorably Apparently the physical and chemical changes resulting in the blood and tissues from the administration of these agents are responsible for the benefits derived from widespread alterations in cellular function, including increase in capillary permeability, which would aid in removing edemas and chronic inflammations, and facilitate exchange of metabolites, increase the metabolism, etc On the other hand, the results may be alarming and even result fatally This might be expected from the flocculations, agglutinations, embolism and thrombosis, provided these are sufficiently marked, extensive and present in important organs (lungs, brain, heart), resulting in sudden death, or asphyxiation and death from the capillary stasis and blockage Protein anaphylaxis is not made use of therapeutically, it is usually not fatal, but is disturbing in connection with injections of serums, antitoxin, etc, for the same reasons as the disturbances from other agents Hence, an understanding of the nature and probable basis of the allergic phenomena should aid in regulating the nonspecific, foreign protein, etc, therapy

*Intravenous Medication*.—Many of the agents that are mentioned in this paper are advocated to be used intravenously in patients in place of the oral and other safer methods of administration This includes such common agents as hexamethylenamin, iodid and salicylate, which cause definite chemical and physical changes in the blood of animals (Hanzlik, De Eds and Tainter) These changes, taken together with the symptomatic and histologic changes from the same agents, indicate that they are disturbing and injurious to important functions and tissues when administered intravenously (Hanzlik and Karsner) There is no justification for the intravenous administration of such agents as hexamethylenamin, sodium iodid and sodium salicylate, because their ordinary systemic effects are readily and promptly obtained from oral administration On the contrary, other and more detrimental effects may be obtained from intravenous administration

An agent injected intravenously may be temporarily beneficial to one function, but detrimental to others and to the organism as a whole This is illustrated by the intravenous use of acacia in shock and similar conditions By the use of acacia, a single function may be improved, that is, the level of blood pressure may be raised and maintained at a high level for a time However, the net result for the organism is no better, and is usually worse, than by other methods of treatment, injurious effects in and greater mortality of animals than from other solutions having been demonstrated (Henderson and Haggard), and also severe reactions and death in patients (Lee) Even isotonic sodium chlorid solution is not physiologic, but is not as injurious as some other agents and solutions

The intravenous effects of agents cannot be predicted from their physical and chemical properties, and from their physiologic effects when given by mouth For instance, agar, which is chemically inert and harmless when given by mouth, produces violent reactions and even death when injected intravenously in minute doses From all this it follows that the indiscriminate and careless use of drugs by intravenous injection is irrational, unscientific and dangerous In practice, this would not apply to those agents which have been shown experimentally to be harmless, and with those such as the arsphenamins and strophanthin, for which intravenous injections are relatively safe and other methods of administration, unsafe or unsuitable However, even with the arsphenamins (Voegtlin et al, Freud) and strophanthin (Meyer and Freud), modifications of, or use of adjuvants with, the compounds are being sought and tried by intramuscular and hypodermic administration, and successes are reported, the object being to obviate the reactions and injuries from their intravenous administration

CONCLUSIONS

1 The anaphylactic and anaphylactoid phenomena, collectively the allergic phenomena, appear to rest on a common basis, namely, on disturbances in the physical and chemical (colloidal) mechanisms of the blood and tissues

2 This is indicated from the evidences taken as a whole, among which are the nearly identical symptomatic, blood and tissue changes in different species described in the literature

3 Exceptions to this are the period of incubation, and the hyperexcitability of isolated smooth muscle that appear to be peculiar to protein anaphylaxis, and some discrepancies in the histologic changes, but these differences may be explained and reconciled on a physical basis

4 However, in view of sundry difficulties, the exact explanation of the physical-chemical disturbances is not yet at hand, though it is believed that such disturbances mediate cellular stimulation and depression, and hence alteration in normal functions, commonly recognized as symptoms or "reactions," etc

5 This gives the allergic phenomena a broad significance in biology, and therefore, in pharmacology and therapeutics, with which they enjoy a mutual relationship

6 The analysis of the phenomena indicates something of the nature and limitations of nonspecific, foreign protein, etc, therapy and emphasizes again the dangers of intravenous medication

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# SOME SUGGESTED REFORMS IN THE MEDICAL CURRICULUM *

URBAN MAES, M D

NEW ORLEANS

In recent years it has become the custom to separate the medical curriculum into two distinct parts the preclinical, or laboratory, and the clinical years This means that during the early part of the student's training—through the third and fourth years, if he takes the premedical course also—his entire time is devoted to the purely scientific branches And it means also that during those four years he never comes into contact with a sick person, and naturally he is not impressed with the fact that his ultimate aim is to recognize disease in the living, and to apply his art in its relief and cure The time spent in the purely scientific branches is both necessary and essential, a profound knowledge of biology, chemistry, anatomy, physiology and pathology all contribute to making the well rounded physician But are we not building too much foundation for the structure that is to be put on it, or, to put it more accurately, are we not losing sight of the proper balance, when we devote more time to the preclinical than to the clinical years? Are we not teaching our students, unconsciously at least, that research work and laboratory investigation are more important than the healing of the sick?

This tendency is widely recognized Dr W J Mayo, in an address before the Physicians' and Surgeons' Club of Rochester, in December, 1919, after pointing out how, in the teaching of the late Professor Corydon L Ford of the University of Michigan Medical School, the old system of clinical teaching and the new system of laboratory investigation were combined with surpassing results, added "During my active experience in surgery, working with many different assistants, I have not always been impressed with their knowledge of anatomy, though they have all possessed a fair knowledge of pathology At times it would seem that they were more familiar with minute pathology than with anatomy" Cushing, in his presidential address before the American College of Surgeons in 1922, summarized the situation in these words "It is a curious commentary on our methods that, while we have come to emphasize the importance of teaching the preclinical sciences by practical laboratory exercises, so that the student may at least have some first-hand knowledge of the scientific method, and may learn to interpret and observe for himself, we have tended, if not to abandon, at least to postpone to the end of the course these very methods so far as the clinic is concerned" The Committee on Curriculum of the American Medical Association, under the chairmanship of Dr Hugh Cabot, has also called attention to this tendency "There is some reason to believe that the arrangement of the curriculum which concentrates the preclinical subjects in the early part of the courses has tended to create in the minds of the students an amount of separation of the subjects from their clinical application which is undesirable Though it is obvious that these subjects are fundamental, and form the basis of the study of medicine, it is of first class importance that their relation to the practice of medicine should at all times be kept before the student There is distinct danger in the teaching of these subjects as exact and isolated sciences which may come to live in almost watertight compartments"

As I have already said, I have no wish to decry the importance of the purely scientific branches, but why cannot such training be given at the same time as some practical clinical work along the same line? Would it not be better to teach bacteriology and anatomy along with the practical application of these two fundamental branches? Will not your student be a better physician if there is established some liaison between the purely theoretical studies and the study of disease in the actual sick man? Could not the missing link be supplied by earlier contact with the patient? Take, for instance, the treatment of a staphylococcal or streptococcal infection of the hand as a basis for such a study It would be easy to teach at the same time the anatomy of the hand, the relations of the tendon sheaths and bursae, the circulation and innervation, the pathology of the condition, the actual treatment, and the resulting disability from improper methods The student who is proficient in anatomy, and may even be able to draw cross sections of the entire torso, frequently does not understand the structures which are approximated in the Bassini operation or any other procedure for the cure of the ordinary varieties of hernia, simply because of this lack of correlation As the situation is at present, the clinical teachers are carrying the added burden of pointing out to the student the practical application of his preclinical education, and they are not always qualified to do it The surgeon is usually a fair anatomist, the internist is usually a good physiologist, but how many of them have kept up their knowledge of embryology, for instance, and its rather important bearing on certain diseases and deformities? Under the present system, on the other hand, the preclinical teacher is not a practicing clinician and never has been, and in most instances he is unable to give to his students

* Chairman's address read before the Section on Surgery General and Abdominal at the Seventy Fifth Annual Session of the American Medical Association Chicago June 1924

the practical clinical application of the subjects he is teaching With such a line of demarcation between his teachers, it is small wonder that the student finds himself bewildered and is inclined to regard the two divisions of his medical course as totally unrelated

That is the situation, then, as it exists today Our medical curriculum is sharply divided, our clinical and preclinical faculties are equally clear in their division of responsibility, and the student is certainly not at fault if he loses sight of the fact that the major portion of his life, unless he goes over entirely to research work, will be spent in dealing with the sick, who are an unknown quantity to him when he has half, or more than half, finished his course Naturally there are certain very practical consequences, perhaps the most important of which is a drifting away from clinical methods, and an almost slavish dependence on laboratory methods on the part of the medical profession today

### NEGLECT OF CLINICAL METHODS

Having been trained at a time when most of our scientific armamentarium was in its infancy, I cannot refrain from just a passing word of reference to the diagnostic acumen of some of our older clinicians, and a wish that some of their clinical sense could have been handed down to the generations that have succeeded them I refer in particular to some of the practitioners in the community of my residence, who had been trained in the French school, and who began their surgical apprenticeship—for surgery was a new science in those days—as general practitioners The color of the patient's skin, the general and facial appearance, the position in bed, certain characteristic odors, especially of the perspiration, all had a meaning for them which they do not possess for most of us

A characteristic illustration is the story told of Laennec how when a patient accidentally expectorated on his hat from the veranda above, he looked at the nummular sputum and simply remarked, "The poor fellow will be dead in a few weeks" Contrast this with an incident Cushing related in his recent address before the Annual Congress on Medical Education in Chicago "A patient was admitted in the fall to one of our well known hospitals, noted for its spirit of investigation and the exactitude of its work The only thing that appeared to be wrong with the man was that he had a fever of unknown origin A variety of people, whose special duty it was, had made detailed examinations of the blood, urine, sputum, stools and cerebrospinal fluid microscopic, chemical and bacteriologic His thoracic and abdominal viscera had been thoroughly and expensively studied by the roentgenologist His basal metabolism had been estimated and recorded, electrocardiograms had been taken, and specialists had been called in to exclude nose, throat, teeth, ears and eyes All these things took time, and meanwhile the fever persisted At this juncture a country practitioner who had enjoyed none of the present day laboratory advantages happened to visit the hospital, and as he passed the man's bed in the course of the morning rounds, he casually remarked, 'I am surprised to see that you still have an occasional case of typhoid fever in your neighborhood'" The story may be somewhat overdrawn, but the moral is plain

Our interns, as they come to us after completing their medical course, illustrate very well the weakness of our present system They are familiar with all the instruments of precision that should be used as diagnostic and prognostic aids, and to confirm one's suspicions as to what is wrong with the patient They are in many instances familiar also with laboratory microscopy, blood chemistry and the use of the electrocardiograph But their clinical sense is usually underdeveloped or entirely lacking I have recently observed young physicians in an outpatient clinic, and I have noted that the diagnosis of tuberculosis, for instance, is rarely made on the physical signs A suggestive history is obtained, and the patient is sent to the roentgen-ray laboratory for a picture of his chest, if the report is positive, he has tuberculosis, if it is negative, he hasn't If there is a suspicion of goiter, the basal metabolism reading does the rest The anatomist, the pathologist and the bacteriologist are sort of superclinicians who are depended on to make microscopic or test-tube diagnoses A positive Wassermann reaction is too often the only indication for treatment, the reaction is cared for, but the patient is ignored The stethoscope has fallen into innocuous desuetude The electrocardiograph is the only means of recognizing heart lesions, and without the laboratory there is no typhoid fever Pain in the right iliac fossa calls for a leukocytic count, and a high count calls for an emergency appendectomy The work of Fitz, Murphy and Oschsner has been lost sight of It is true that a blood count is our most reliable rule for guidance at this time, and that most of us, not being Ochsners, need some such rule, but one feels strongly tempted to put his idea, unsafe though it be, into practice when teaching students these days, "Make your diagnosis of appendicitis, have a blood count made, operate, and then look at the blood count"

Again, while the interns who come to us fresh from the college may be thoroughly drilled in these laboratory methods and may be able to discourse learnedly on the theory of surgery of the upper abdomen, for instance, as assistants at the simplest operation they are frequently more hindrance than help, and many of them cannot even put on a comfortable bandage, let alone a neat-looking one, for the reason that they have had no practical experience in doing these things but have simply talked about them It would certainly be better to teach our young men the surgery of the outpatient clinic, which is the sort they will need most and soonest, than to have them lectured by even the best of surgeons on the mysteries of abdominal disease

### THE DRIFT TOWARD SPECIALISM

A second consequence of our present method of education is the tendency to drift into narrow specialism By this I do not mean those branches which have always been recognized as pure specialties, such as ophthalmology, otolaryngology and dermatology, but such others as surgery, obstetrics and gynecology, in which the line of division is very faintly drawn or does not exist at all There is a tinge of sorrow in the fact that the good old general practitioner has disappeared from our midst I am not saying that we would wish him back in his old incarnation, but certainly we have let the pendulum swing to the other extreme, and it is small wonder that the patient is bewildered and rather resentful as he tries self-diagnosis in an endeavor to decide which specialist he shall consult for his particular ailment Medicine is too big a field now for one mind to grasp in its entirety, but a survey of the whole field is still a desideratum, and it must be acquired by the medical student during his college days The best specialist in any line is the man who has begun his career as a general practitioner, for very often many of the symptoms referable to any given region of the

body have their origin elsewhere Specialization should be an evolutionary process rather than a chosen career, and while it is not practical to omit the specialties entirely from the medical curriculum, certainly they should not be emphasized to the extent they are at present That should be the function of the hospital years or of the graduate school

This emphasis on laboratory methods, and this drift into the specialties is not an abstract affair it results in most decided consequences to the patient and to the community I need not point out that medical treatment is becoming for the individual patient a most expensive luxury, with the consultations and the laboratory tests needed for the diagnosis of the simplest disease, and that it is the great middle class which suffers The rich man can pay and the poor man can go to the free clinics and public hospitals, but the average wage earner must either accept charity or do without the treatment he needs Then, the scarcity and even lack of physicians in many of our rural communities can be traced to this very tendency It is becoming increasingly difficult for the country doctor to practice without a great deal of expensive equipment, which in many cases is not practical for his use Therefore he must refer his patient to the city, where the specialist is available, with all his laboratory facilities This continued practice tends to direct all of those who can afford it to seek the city doctor, and the man in the country is soon left to treat only the poorer class of patients, or frank emergencies If he is ambitious he will soon follow his disappearing clientele to the city, or perhaps by a rather large expenditure he will go to one of the graduate schools and study the essentials of laboratory and clinical microscopy, while some of his more unscrupulous confreres will remain at home and attempt to recoup their disappearing finances by sending their patients to the city doctor who will give them the highest percentage of profits, for fee splitting springs from many causes

I have no desire to go on record as believing that this is the only cause of the scarcity of rural physicians, but it is certainly a contributing factor, as my own experience proves Many times in recent years I have been asked by young men beginning practice how much equipment they need to do good work in a country town When the subject has been threshed out they have usually decided to take their chances in the city, or to seek contract positions where they will be assured of a living wage without financial risk on their part I know personally at least a dozen young men with every promise who have disappeared in some lumber or mining community Colwell has pointed out that we have no scarcity of physicians in the United States, where we have one to every 726 inhabitants, as compared to one to every 1,000 in the European countries, but that the trouble lies in uneven distribution The tendency is unquestionably for our young graduates to remain in the cities, and any system of education which does not distribute its products, and which tends, no matter for what reason, to crowding in some sections at the expense of others, needs revision

### THE REMEDY

So much, then, for our present system of education and its consequences Now what are the remedies? It seems to me that in our earnest endeavor to supply better physicians we have progressed too rapidly, that it would be better to go back just a little and adopt some of the methods in vogue about fifteen years ago, when more thought and time were given to the actual study of disease in the living patient and in the necropsy room We need a closer contact between the clinical and preclinical branches, which in my mind can only be accomplished by an earlier contact between student and patient, and a closer liaison between the clinical and the purely scientific teachers, so that the student may have the benefit of the application of his scientific training from the very beginning As Cushing says, "I do not believe that students can begin to think in terms of the patient too early in their course, nor too early begin to interpret and record what they can see, hear and touch—perhaps even smell and taste—at the bedside"

To do this it would not be necessary to increase the teaching hours assigned to surgery, which, of course, is the particular branch I have in mind The curriculum is full enough as it is I am heartily in accord with the report of the Committee on Curriculum of this Association, which I have already quoted It believes that "the amount of assigned, supervised teaching has become a fetish worshipped as such," and that a "sounder, and so to speak, rounder development of students will take place with a lesser amount of assigned teaching" On the other hand, I do not believe that we should go back to the old method of plunging the entering student directly into the complicated problems of the bedside But there is a possible via media I am not advancing this as the only solution, but I think that perhaps the inauguration of a summer semester might be feasible, when students might work as clinical clerks, especially in the outpatient departments The development of the specialties might take place here, but that would not be the main aim, and the service should be a rotating one, so as to broaden the students and give them the necessary training in all branches The application of their scientific training could be made in such clinics, and the study of disease conditions carried out from both sides Then the emphasis would be where it belongs, on the patient, and not on the theory of disease or the instrument of diagnosis, and the "pathology of the living," in Moynihan's happy phrase, would once again assume its rightful preeminence in the science and art of surgery

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**Leechcraft in Ancient China**—A truly wonderful code regulating the machinery of government is a book which still exists under the title of 'The Chou Ritual" (Chou li) It enables us to study most minutely Chinese civilization during the last eight and a half centuries of the Feudal Period, i e, till 246 B C The Chou Ritual contains a detailed account of the state medical service, comprising five departments, under the control of the prime minister, or "officer of heaven" The first of these five was what we may perhaps term the ministry of health, presided over by a chief medical officer (i-shih) whose staff numbered thirty His functions were to supervise medical practice and pharmacy throughout the state, and himself to treat the emperor and high officials At the end of each year he put his medical officers through an examination as to their success or failure in treating their patients, and he adjusted their rank (and presumably also their pay) accordingly Then there was a department, with a personnel of eight, charged with treating the maladies of the common people Another separate medical department was that concerned with abscesses, ulcers and other septic conditions The fourth department was composed of two medical officers charged with supervision of the imperial dietary This elaborate state medical service existed during the Chou period from about 1100 to 300 B C—Yetts, W P *Proc Roy Soc Med* **17** 2 (Jan) 1924

# CINCHOPHEN POISONING

## REPORT OF A CASE OF SEVERE ALLERGIC REACTION

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Cinchopen and neocinchophen are being extensively advertised as superior to the salicylates in the treatment of rheumatic fever Of these, neocinchophen is becoming especially prominent in the recent literature [1] The freedom from toxicity in the ordinary antirheumatic doses is being especially stressed - Barbour, Lozinsky and Clements [3] are very enthusiastic about the use of neocinchophen as a substitute for salicylates in practically all conditions in which the latter are usually indicated Others [4] report very favorable results Since cinchophen and its close derivative neocinchophen have been lauded as nontoxic drugs in gout and arthritis,[5] it might be well to sound a note of warning against the indiscriminate use of both these substances, because a study of the literature, together with the case here reported, demonstrates that these drugs, especially the mother substance cinchophen, are not entirely free from serious toxic symptoms

Cinchophen was introduced into this country under the proprietary name of atophan Its derivative neocinchophen was introduced as novatophan It might be well to point out the relationship between the two drugs

Cinchophen is phenylcinchoninic acid Neocinchophen is the ethyl ester of paramethylphenylcinchoninic acid These substances are very different chemically from salicylic acid

The toxic effect of cinchophen was called attention to by Schroeder,[6] who reported nine cases of his own of severe by-effects from the drug, and eight other cases reported to him by other physicians and his patients In his experience, the drug induces irritation of the digestive tract as well as constitutional symptoms of generalized itching, eruption and edema of the skin, fever, headache, etc Hanzlik and Scott [1] found that both cinchophen and neocinchophen show injurious effects on the kidneys, as evidenced by albumin, casts and white blood cells in the urine, but that the effect is greater with the former drug They also found that the symptoms of salicylism, such as nausea, vomiting, dizziness and tinnitus, also accompany the use of these drugs They conclude that cinchophen in large doses, such as are necessary in the treatment of rheumatic fever, shows injurious effects on the kidneys, and other undesirable by-effects similar to those obtained from the use of the salicylates

Boots and Miller [1] report their results during the last three years in the treatment of twenty cases of acute rheumatic fever They found that 75 per cent of the cases treated with neocinchophen showed toxic effects of some sort or other Evidence of renal irritation by the presence of albumin and casts are common One normal subject developed urticaria, with albumin in the urine following administration of 2 gm of the drug In order to obtain the same therapeutic effect as with salicylates, larger dosage had to be administered As a whole, however, the toxic symptoms were somewhat less severe than with the salicylates

Chace, Myers and Killian [4] made a comparative study of the efficiency and toxicity of the three drugs They find that the neocinchophen is practically inert in the stomach, producing little, if any, distressing intestinal disturbances Its therapeutic efficiency is not less pronounced than that of cinchophen, and they consider this drug to be a very promising agent in the treatment of acute rheumatic fever

Jokl [4] reported his experience with cinchophen and neocinchophen in the treatment of thirty-nine cases of acute and chronic polyarthritis The results were generally favorable, and in no case could he demonstrate any by-effects on the kidneys, heart or other organs

Schroeder [6] believes that the unfavorable toxic symptoms may be warded off by administering sodium bicarbonate along with the drug, and also by the use of large quantities of water Klemperer,[7] on the other hand, does not prescribe sodium bicarbonate and does not think that it is at all necessary

From the foregoing, it will be seen that there are a number of reports in the literature which demonstrate not infrequent toxic effects from cinchophen and its derivative A rather severe case of cinchophen poisoning came under my observation in June, 1923

I was called to see a man, aged 44, who was in a semi comatose condition and was thought to be in a dying state by members of his family The history of the case is as follows

About three or four years previous to the present illness, the patient was suffering from rheumatic pains in the knees and the insteps of both feet His physician prescribed tablets of cinchophen, two 7½ grain (0 5 gm) tablets to be taken five or six times daily After a short course of this treatment, his condition improved and he became free from pain Since then he has had several mild recurrences of pain, always relieved by taking a few cinchophen tablets

March 1, 1923, he purchased a new bottle of cinchophen tablets from one of the drug stores March 4, he developed a mild attack of pain in his knees and feet Within ten minutes after taking two of these tablets, he felt a peculiar sensation all over his body There was an itching and prickling sensation of the skin at first, soon followed by numbness and a feeling of complete paralysis He fell to the floor and could not move Just before he fell, everything seemed to be turning dark before his eyes He did not lose consciousness His body became covered with a cold clammy perspiration There was a heaviness and pressure across the chest in the region of the heart, producing difficult breathing A physician, who was immediately called, administered some stimulants, and in about half an hour the patient felt very much better He promptly made a complete recovery At that time he took no more tablets

June 5, three months after his previous attack, he came home complaining of a recurrent pain in the legs He again took two tablets for the relief of the pain Immediately

1 Hanzlik P J , Scott, R W , Weidenthal, C M and Fetterman, Joseph Cinchophen, Neocinchophen and Novaspirin in Rheumatic Fever, J A M A **76** 1728 1734 (June 18) 1921 Barbour H G and Lozinsky, E Nontoxicity and Antipyretic Efficiency of Tolysin (Ethyl Ester of Paramethylphenylcinchoninic Acid), J Lab & Clin Med **8** 217 226 (Jan ) 1923 Boots, R H and Miller, C P A Study of Neocinchophen in the Treatment of Rheumatic Fever, J A M A **82** 1028 1236 (March 29) 1924

2 Barbour and Lozinsky (Footnote 1)

3 Barbour, H G , Lozinsky, E and Clements, C Tolysin in Acute Rheumatic Fever and Other Conditions, Am J M Sc **165** 708 718 (May) 1923

4 Chace, A F , Myers, B C , and Killian, J A Treatment of Arthritis Chemical and Clinical Studies with the Salicylates, and Cinchophen and Neocinchophen, J A M A **77** 1230 1232 (Oct 15) 1921 Jokl, R H Ueber die Wirkung des Atophan und Novatophan bei rheumatischen Affektion (The Influence of Atophan and Novatophan in Rheumatic Affections), Prag med Wchnschr **38** 465 466, 1913

5 Heller, E Atophan bei Gicht und akutem Gelenkrheumatismus (Atophan in Gout and Acute Articular Rheumatism), Berl klin Wchnschr **47** 526 527, 1911 Bendix, A Zur Behandlung des Gelenkrheumatismus mit Atophan (Treatment of Articular Rheumatism with Atophan), Therap d Gegenw **53** 301 314, 1912

6 Schroeder, K Cinchophen Poisoning, Ugesk f Lager **84** 1141, 1922

7 Klemperer, G Zum Verstandnis der Atopnanwirkung (Explanation of the Influence of Atophan) Therap d Gegenw **54** 257 259, 1913

after swallowing the tablets he sat down at the supper table Within five minutes after sitting down and while eating his supper he began experiencing the peculiar sensation coming over his body similar to that which he experienced in March He had the itching and prickling sensation of the skin, followed by a general numbness of the body He described the numbness as not unlike that which one feels at times after the injection of procain A sinking spell overtook him everything turned dark before his eyes, and he dropped to the floor in an absolutely helpless condition He felt powerless to move a muscle, but he did not lose consciousness He again experienced the same pressing and pulling sensation in the region of the heart, associated with very difficult breathing He soon regained a little strength, and felt an inclination to move the bowels He was assisted to the bathroom, where he had a very watery bowel movement While being helped back to bed, he sank helpless to the floor His skin became shiny, appeared swollen, and had a peculiar pinkish color Droplets of cold perspiration appeared all over the skin He was carried to bed, and his body was rubbed with alcohol

I saw him about an hour after the onset of the attack He was lying in bed with deep, labored breathing, the face, arms and chest were a bright pink, the skin was moist, the extremities were cold, the finger nails and lips were deeply cyanotic He appeared to be semiconscious, occasionally answering in a very weak voice His pulse at the radials was just barely perceptible, at times entirely imperceptible, and no heart sounds could at first be heard The blood pressure by the auscultatory method gave very faint tones up to 75 mm The diastolic pressure could not be made out He was given aromatic spirit of ammonia, strong black coffee, and caffein sodiobenzoate hypodermically Heat was applied externally Within half an hour, the pulse became more perceptible and then gradually increased in intensity About two hours after the onset, the blood pressure rose to 90 systolic and 50 diastolic, and then to 100/60, 108/65 and 115/70, about three hours after the onset it was 124 systolic and 78 diastolic By this time the cyanosis of the nails and lips had disappeared The heart sounds also gradually became more audible, and improved in quality The pulse rate, which at first could not be elicited exactly, at no time seemed to be rapid On the next day the patient was feeling as well as usual, pulse 76, blood pressure 130 systolic and 78 diastolic

A careful physical examination on the following day gave normal findings throughout Cardiac dulness was not enlarged, and the heart tones were of good quality The blood pressure was 140 systolic and 78 diastolic The urine examination of the first specimen voided following the attack showed a specific gravity of 1 016, it was cloudy, and strongly acid in reaction, there was a large amount (two plus) of albumin, no sugar, an occasional leukocyte, an occasional red blood cell and a few hyaline and granular casts There was a very heavy sediment of uric acid crystals, as well as amorphous urates A later specimen of urine was straw colored, the specific gravity was 1 012, the reaction was acid, there was a very faint trace of albumin, there was an occasional leukocyte, no red blood cells or casts were seen

About one week after the attack, I tried to determine whether the patient would manifest any hypersensitiveness to cinchophen by the skin tests For these tests I used samples of the tablets that he had purchased and at the same time performed skin tests with acetylsalicylic acid and sodium salicylate All the reactions were negative One has to consider the possibility of temporary desensitization immediately following the attack.

From the foregoing, it is obvious that cinchophen and probably its derivative not only occasionally produce toxic by-effects similar to those of the salicylates, but also may produce irritation of the kidneys and at times severe allergic reactions In the case here reported, the urine showed albumin, erythrocytes, leukocytes and hyaline and granular casts following the ingestion of a single small dose of the drug It should be noted that the urine contained also an abnormal amount of uric acid and urates The hypersusceptibility to the drug occurred on two different occasions during an interval of about three months Each attack was brought on by only two tablets A rather striking feature is the fact that both these attacks came on after the purchase of a new bottle of the medicine I tried to compare these tablets with other cinchophen tablets, and could discover no difference in appearance, odor or taste I did not have them analyzed for any impurities, but the probability is that they were the usual product The profound cardiac depression, the severe skin manifestations and the marked nervous phenomena appeared within from five to ten minutes after their ingestion They were taken on an empty stomach on each of the two occasions, and this may explain the rapidity of the onset of the symptoms The generalized edema of the skin, the marked erythema, the itching and prickling sensations and the profound shock suggest that the attacks were true allergic phenomena The patient might have sensitized himself to the drug during the previous three or four years, when on several occasions he had taken the tablets in large doses But similar reactions were reported by Schroeder [6] and by Boots and Miller,[1] the latter reporting urticaria and albuminuria in a healthy subject following the administration of only 2 gm of the derivative neocinchophen

SUMMARY

1 A case of severe cinchophen poisoning presented the characteristics of profound allergic shock

2 Cinchophen is a renal irritant in many cases when administered in ordinary therapeutic doses

3 Neocinchophen produces renal irritation and other by-effects, but in a lesser degree than either cinchophen or the salicylates

4 In administering cinchophen or its derivative neocinchophen, one should keep in mind the possibility of toxic by-effects and should watch the urine especially for evidences of renal irritation.

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# SOME OBSERVATIONS, LARGELY PESSIMISTIC, ON THE EARLY DIAGNOSIS OF GASTRIC CANCER*

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In past years, much work has been done with a view to developing methods for the early diagnosis of cancer of the stomach, but it would seem fair to say that very little real progress has been made, in the sense of perfecting methods that give a diagnosis of these cases when the disease is actually in an early stage No one would question that we make more accurate diagnoses, largely aided by the roentgen ray, but, unfortunately, the bulk of our cases of cancer of the stomach, when diagnosed, are too advanced for there to be any great hope of cure, and often they are too advanced for surgery to offer any real help in amelioration of symptoms In passing over in a mental review my own hospital experience with patients having stomach disturbances productive of symptoms, two things impress me (1) that most cases of cancer of the stomach are rather definitely diagnosable as such, at the time the patients enter the hospital on the basis of the history and ordinary physical examination, and (2) that

* Read before the Association of American Physicians Atlantic City May 7 1924

extremely few cases of cancer of the stomach are unexpectedly revealed by roentgen-ray examination

In 4,000 recent admissions to the medical wards of the Peter Bent Brigham Hospital there were seventeen patients diagnosed as having carcinoma of the stomach, including one of lymphosarcoma (a histologic diagnosis) A review of their records shows that for most of them the history and ordinary physical examination justified a quite definite diagnosis of carcinoma of the stomach In other words, they were obviously sufferers from this disease at the time they were referred to the hospital Of these seventeen patients, twelve certainly should be placed in this group because they gave a history of loss of weight, usually marked in amount, with definite gastric symptoms, and because physical examination revealed a palpable mass, usually in the stomach region, although in one case there was an enlarged nodular liver In such cases the roentgen ray adds only an additional confirmatory factor Of these twelve cases, the roentgenogram gave the appearance interpreted by the roentgenologist as cancer in ten, while in one, the roentgenogram failed to demonstrate a carcinoma of the cardiac end of the stomach, and in another it suggested ulcer rather than carcinoma

Of the other five patients in this group, in four, although the evidence was not definite, there was little reasonable doubt of the diagnosis of malignancy of the stomach on the basis of history and physical examination In one of these the evidence of history was very definite, but physical examination was only suggestive of a palpable mass The roentgenogram, however, showed cancer of the fundus of the stomach In another there was much loss of weight, pain, jaundice and an enlarged liver, the roentgenogram showed evidences of pyloric obstruction, but nothing to distinguish whether this was due to ulcer or cancer, later the liver became nodular A second case was very similar to this except that the liver felt smooth, while the roentgenogram indicated cancer at the pylorus In the fourth patient the history and simple clinical evidence pointed to cancer of the lower end of the esophagus, and the roentgenogram indicated the same, but necropsy showed that it was an annular cancer at the cardiac end of the stomach

In only one patient of this group was the clinical evidence suggestive of ulcer rather than cancer In this patient roentgen-ray examination suggested an ulcer of the posterior wall of the stomach without obstruction Later an operation was necessitated for drainage of a localized abscess following perforation A later operation showed a carcinomatous mass in the lesser curvature of the stomach, and a scar of a simple ulcer of the duodenum

A review of these successive cases bears out fully the statement that cases of cancer of the stomach are rather definitely diagnosable as such at the time the patients enter the hospital, from a consideration of the history given, and the results of simple physical examintion

One would think that, if patients giving a history of symptoms suggesting a gastric disturbance were quite regularly submitted to barium roentgen-ray study of their gastro-intestinal tracts, at least an occasional case would yield evidence, in roentgenographic changes, of the presence of cancer in its earlier stages My own results in the latter respect have been most disappointing, and indicate that we are still very far from possessing methods capable of giving us the diagnosis of cancer of the stomach in its earlier stages

With these thoughts in mind, I have reviewed the records of these 4,000 successive medical patients and picked out those, though not suggestive of cancer, whose diagnosis would indicate that a roentgen-ray examination of the gastro-intestinal tract after a barium meal probably had been made These admissions cover the period during which careful roentgen-ray examinations were made in a large proportion of cases giving persistent gastric symptoms, even though the history strongly suggested merely a functional disturbance I have found 110 cases of this type, with barium roentgen-ray examinations included among the methods used in their study

Of these, fifty-seven on discharge had some diagnosis made indicating that no evidence was found in the patient's history or physical examination to justify a diagnosis of organic lesion of the stomach, duodenum or gallbladder Such patients might be grouped together under the general term "gastric neurosis" The actual diagnosis is unimportant in the present consideration, the important fact is that roentgen-ray examination yielded no evidence in any of these fifty-seven cases of any organic lesion, and no finding was suggestive of cancer of the stomach

In seventeen patients, after a similar study, a diagnosis, based on the evidence presented, was made of cholelithiasis or cholecystitis In some of this group the diagnosis was qualified to indicate the impression of probability, rather than positiveness In this group again, for our present consideration, the important point is that the roentgen-ray examination yielded no evidence of intrinsic pathologic change of stomach or duodenum, certainly nothing to suggest cancer

In another group of thirty cases, a discharge diagnosis of ulcer either of stomach or duodenum was made In these, the roentgenograms showed signs interpreted to mean ulcer rather than cancer In six patients, on the basis of hemorrhage or other definite findings, a presumptive diagnosis of ulcer was made, even though the roentgenograms gave no evidence of either ulcer or cancer We have subsequently heard from a considerable number of these ulcer, gallbladder and gastric neurosis patients and there is nothing to make us think that an unexpected cancer has developed into one giving definite symptoms and signs A goodly number, too, have been operated on, and ulcer, cholecystitis, cholelithiasis or no organic lesion has been found In one instance, cancer instead of ulcer was revealed at operation, but this case is included in the group of cancer

In 110 patients of this group, eighty showed no intrinsic organic lesion of the stomach by roentgen-ray methods, while thirty showed the lesions of ulcer, more often in the duodenum than in the stomach

These findings bear out the impression that few cases of cancer are unexpectedly revealed by roentgen-ray examination in patients whose full histories and systematic general physical examinations are recorded

Obviously, this review of patients represents too few gastric cases to have any statistical value, but it is confirmatory of my general impressions, based on a considerable clinical experience of some twenty years of active hospital work This impression is that the early diagnosis of cancer of the stomach, in the sense of recognizing it in the stage when it is small locally, and particularly before it has metastasized, is still almost an impossibility, using methods at present available Furthermore, results of roentgen-ray examination of the stomach in cases whose general study points to a functional gastric disturbance hardly justify the

examinations from the point of view of the recognition of unexpected cancer, their value lies in their positive usefulness in the recognition of ulcer and their help in the diagnosis of gallbladder disease, in these the value is great enough to fully justify the procedure, but the procedure does not lead to finding unexpected cancers of the stomach

Peter Bent Brigham Hospital

## TENDON REFLEXES IN MYXEDEMA A VALUABLE AID IN DIAGNOSIS *

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Sir William Gull,[1] in 1873, called attention to a disease with a distinctive group of symptoms which later became known as myxedema, and since then physicians' interest in this disease has steadily increased Myxedema, according to Boothby's [2] definition, is "a constitutional disease, occurring in adults, due to decrease or absence of the secretion (thyroxin) of the thyroid gland as a result of its atrophy or removal, characterized by a markedly decreased basal metabolic rate, a myxedematous condition of the tissues, a slowed, impaired mental condition, a typical facial expression, and other secondary manifestations"

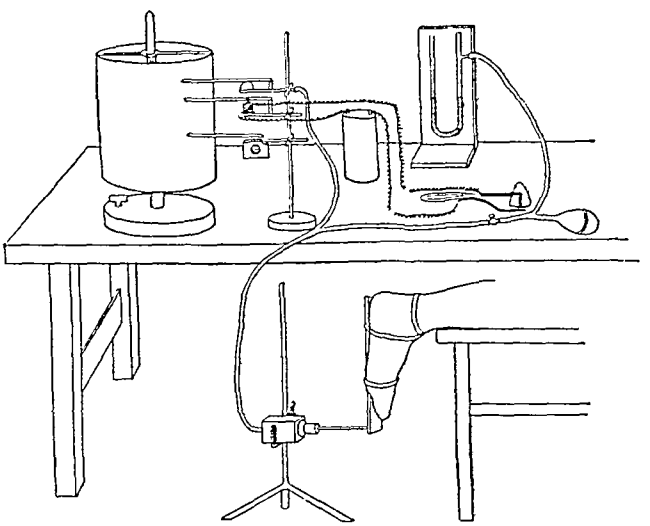


Fig 1 —Apparatus for recording the tendon reflexes

Since the time of Gull, each year has brought forth an ever increasing amount of literature concerning this disease, especially about the diagnostic features Even now, however, it is surprising how frequently myxedema is unrecognized, and the patient allowed to go from place to place in search of help, in many instances treated for such conditions as "anemia" or "nephritis" Sturgis,[3] in a discussion of myxedema, says that ten of his patients had been examined elsewhere before they consulted him, and in only one had the real condition been recognized This fact may possibly be explained by the relative infrequency with which the average practitioner encounters this disease It the physician in his routine examination of patients could have his attention directed to myxedema by one quite definite sign, he would then be led to look for the other characteristics of the disease, and in this way establish a diagnosis In myxedema there are at least two very definite, outstanding features, either one of which should suggest the disease to the physician the patient's characteristic edematous appearance with rather unusual distribution of the edema, and the slowness of movement of the tendon reflexes It is my purpose here to direct attention to the latter condition, the slowness of movement in all the tendon reflexes

The movement is so slow that it can be easily recognized without the aid of mechanical devices, and it is almost pathognomonic The slowness of the movement in the reflex has reference to the interval of time of a

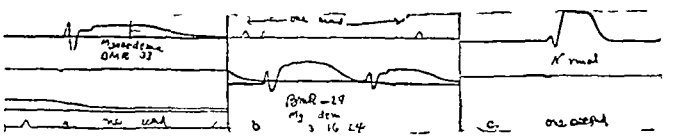


Fig 2 —Graphic records of the Achilles tendon reflex in two cases of myxedema (*a* and *b*) in which the basal metabolic rates were — 33 and — 29 respectively A curve of a normal Achilles reflex (*c*) is given also as a contrast

complete response in a patient, as compared with the time of the tendon response of a normal person In other words, it is the time required for the muscular contraction and relaxation after the tendon has been stimulated In patients with myxedema, this quality of the reflex can be best observed in the Achilles tendon, the biceps or the supinator longus tendon The clinician, in order to satisfy himself as to the presence or absence of this condition, needs only to use his percussion hammer

The slow reflexes in myxedema are in keeping with all the other vital processes in this disease According to Plummer,[4] "thyroxin (the active principle of the thyroid gland) is a catalytic agent hastening the rate of formation of a quantum of potential energy available for transformation on excitation of the cells" The amount of thyroxin, therefore, determines the rate

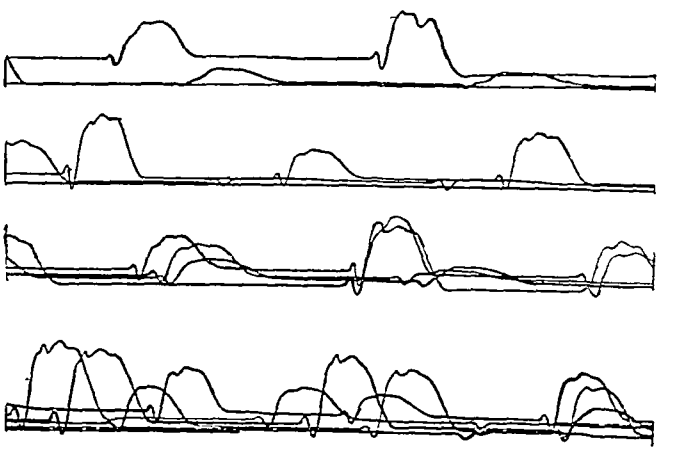


Fig 3 —Curves of a series of tendon responses in a patient having a normal rate showing that the time occupied by the response remains practically the same irrespective of the degree of stimulation

of cell activity or the speed of the vital processes if the necessary stimulus is present In myxedema there is a deficiency or a total absence of thyroxin in the tissues, and therefore the rate of energy transforma-

* From the Division of Medicine Mayo Clinic

1 Gull, William Sur le myxœdeme Arch gen de med **143** 677 685 1879

2 Boothby W M Diagnosis and Treatment of the Diseases of the Thyroid Gland Oxford Medicine 3 883 963 1921

3 Sturgis C C A Clinical Study of Myxedema with Observations of the Basal Metabolism M Clin N Am 5 1251 1286 (March) 1922

4 Plummer H S Functions of the Normal and Abnormal Thyroid Gland Oxford Medicine 3 839 844 1921 Interrelationship of Function of the Thyroid Gland and of Its Active Agent Thyroxin in the Tissues of the Body J A M A 77 245 247 (July 23) 1921

tion is greatly reduced All the vital processes, while seeming to act normally, are greatly reduced in speed This is best illustrated in the myxedematous patient by his rate of cerebration and speech, for he thinks and talks very slowly, but his deductions are probably as logical as ever The patient's reaction to every form of stimulation, mental and physical, is greatly retarded,

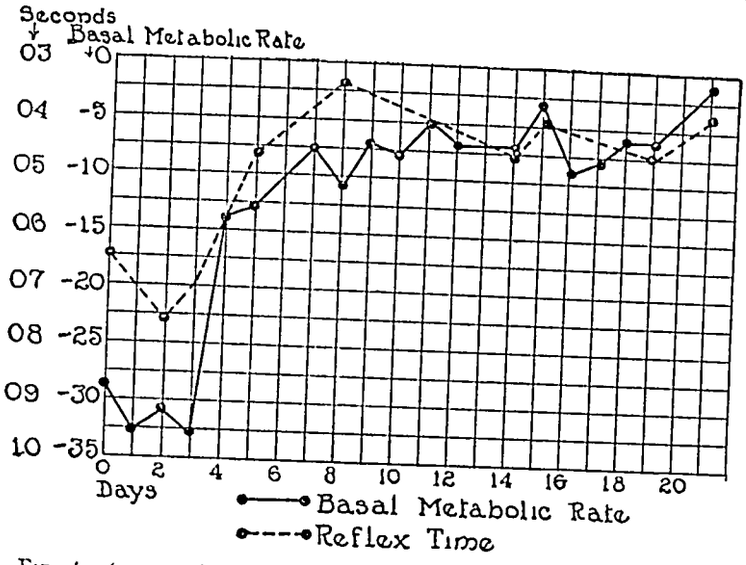



Fig 4—Curves showing parallel changes in the reflex time and the basal metabolic rate during treatment

and the slowness of his reflexes is in harmony with this general picture For a number of years this condition of the reflexes in myxedema has been recognized at the Mayo Clinic, but until recently no attempt has been made to record it graphically

In constructing the apparatus used in this study, every effort has been made to have every part as light and delicate as possible, and yet sufficiently rigid to prevent the results being influenced by faulty mechanical devices This apparatus may be used for any of the tendon reflexes, but for these experiments it has been adjusted for the Achilles jerks The advantages of using the Achilles reflexes are that the patient can be very comfortable kneeling on a well padded chair, and that when in this position he is not likely to influence the results by watching the percussion hammer

The apparatus consists of three essential parts one part primarily for recording the reflex, one for registering the impact of the percussion hammer, and one for recording the time in seconds (Fig 1)

The mechanism primarily concerned with recording the reflex consists of a small rubber balloon enclosed within a tin box, which is open at both ends This box is held firmly to a rather heavy metal stand by a clamp that permits it to be adjusted easily to any desired level The balloon within the box is joined, by means of a short glass tube, to a large rubber tube, which is connected to a small tambour and also to a water manometer The tube close to the manometer has attached to it a rubber bulb taken from a blood pressure cuff, which enables the operator to have the same pressure in the apparatus for each experiment, and also a petcock, which serves to disconnect the manometer when the apparatus is properly adjusted The tambour elevates and lowers a very light wooden marker, to which it is affixed by a bit of sealing wax

The attachment, to be fastened to the patient's bare foot, is made of very light material, weighing 57 gm It consists of a small wooden strip, 35 cm long, held to the foot by small straps, and contains at the end, which projects from the toe, a small but stout wire, which has a hinge action with it At the other end of the wire is a small cork, which comes in contact with the balloon and in this way serves to transmit the movement of the patient's foot to it The impact of the percussion hammer is registered by means of an electromagnet The circuit to the electromagnet is closed by two very thin metal strips attached to an ordinary rubber percussion hammer, as shown in Figure 1 Time is recorded in seconds on the drum by means of a clock attachment

An examination of the graphic records made by this apparatus reveals several facts worthy of consideration (Fig 2) First, the seconds, as marked off, occupy such a short space on the tracings that such phases of a reflex as the latent period, which is the time elapsing between the stimulation and the beginning of the response, cannot be studied unless they vary markedly from the normal, which is about 0 05 second Again, it should be observed that the results obtained in cases of myxedema are so different from those in normal cases that the contrast should be noticed by the unaided eye At the beginning of each curve there is an inverted loop dipping below the base line, which is caused by the impact of the percussion hammer on the tendon, and it varies in size with the severity of the impact In all the tracings made from patients with myxedema, this inverted loop is greatly exaggerated, testifying to the fact that in patients with myxedema a greater stimulation is necessary than in normal persons Still another fact, applying to tendon reflexes in general, which is revealed by a careful examination of the results, is that for any individual at a given time, not only is the height of the curve of the reflex proportional to the degree of the stimulation applied to the tendon, but that the time occupied by the complete reflex action is independent of the amount of stimulation and the height of the curve, and remains always the same unless the element of fatigue is introduced (Fig 3)

It has long been known that when a patient with myxedema is properly treated with a thyroid prepara-

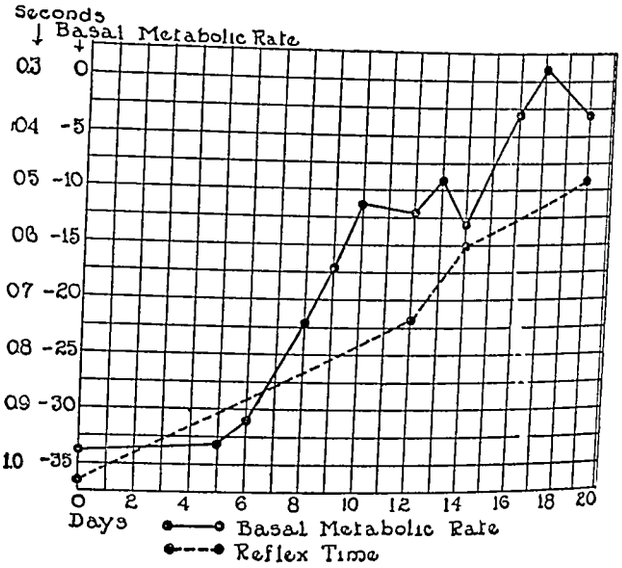



Fig 5—Curves showing changes in the tendon reflex time and the basal metabolic rate during treatment

tion, his remarkable transformation is as much mental or psychic as physical His slowness of speech and thought, his mental depression, weariness, irritability, indifference and apathy are replaced by a normal quickness of thought and response, cheerfulness and optimism Once more he becomes interested in things about him, and shows in his every action that he is glad he is alive The physical changes are not less striking

than the mental, and it was thought, therefore, that the tendon reflexes might change in a like manner and be an index to the patient's improvement somewhat similar to the index now obtained by determination of the basal metabolism

Four patients, who exhibited in every way characteristics of myxedema, were studied, and their Achilles reflexes recorded graphically throughout their treatment The results obtained were plotted in curves (Figs 4, 5, 6 and 7), from which several interesting deductions were made The curve of the reflex and the curve of the basal metabolic rates are strikingly parallel When finally the basal metabolic rate is normal, the reflex likewise is normal, or as nearly so as can be judged by what is now known of the limits of a normal tendon reflex It is obvious, however, that a definite conclusion as to the relation of the basal metabolic rate and the reflexes cannot be drawn from four cases The fact that they seem to be parallel all during the period of recovery may be a coincidence Observations must be made at more frequent intervals and on more patients before a definite conclusion can be reached

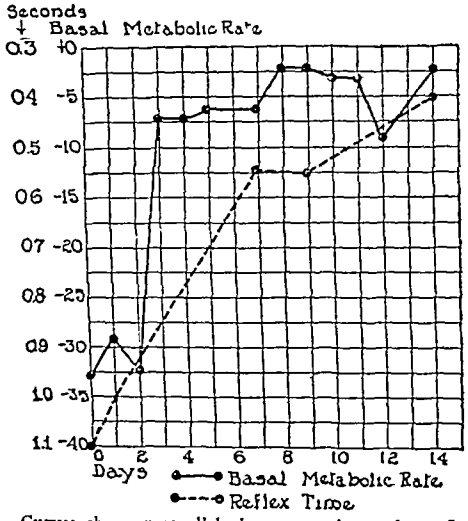



Fig 6 —Curves showing parallel changes in the tendon reflex time and the basal metabolic rate during treatment

A more careful study of the curves made by charting the time of the reflexes during the process of recovery shows no point at which there is a sudden change in the reflex time To the internist, therefore, who is relying on his percussion hammer alone for his information, the time of the reflexes of a person who is recovering from myxedema would naturally fall into three groups (1) those that are decidedly slow, as in typical myxedema, (2) those in which the time is sufficiently slow to make one suspicious of myxedema, and (3) those that seem within the limits of normal Probably the greatest transition in the reflexes, as the result of treatment, occurs just after the disappearance of the so-called edema

From the standpoint of diagnosis, however, it is more important to know at what point in the insidious course of the development of myxedema the reflexes would be slow enough to arouse suspicion It is probable that they undergo a gradual transition in the development of the disease just as in the process of recovery The stage at which the reflexes would attract the internist's attention would probably be during, or just after, the development of the edema According to Plummer, 'the edema of myxedema develops at, or at least becomes recognizable when the basal metabolism drops from 15 to 17 per cent below the average normal" (Fig 8)

Tracings were made of the tendon reflexes in normal persons, and compared with the tracings obtained in conditions associated with low basal metabolic rates but not definitely related to the thyroid gland, such as pituitary tumors with low rates, an unclassified group

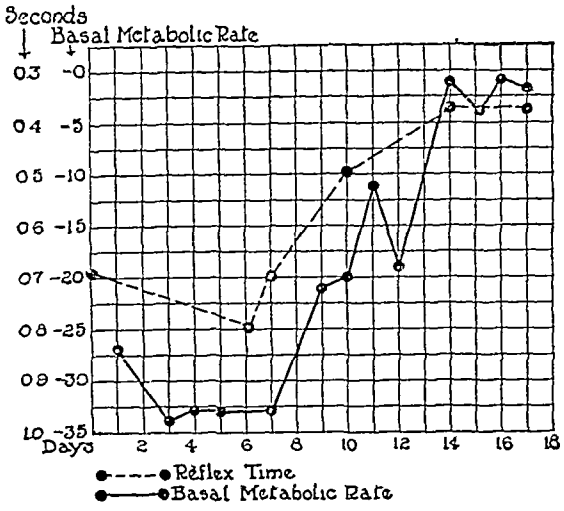



Fig 7 —Curves showing parallel changes in the tendon reflex time and the basal metabolic rate during treatment

with low rates, and the so-called anorexia nervosa The latter condition is a state of extreme emaciation, apparently due to a total loss of appetite, and its low rate is probably related to a starvation process In this group there were five cases of quite typical pituitary tumors with rates varying from —12 to —28 per cent The one patient diagnosed as having anorexia nervosa had a rate of — 36

The results obtained show graphically, what has been observed for a number of years in the routine examination of these patients in the Section on Neurology of the Mayo Clinic, that myxedema is apparently the only condition in which the tendon reflexes are much slower than normal, that in all the other conditions associated with a low basal metabolic rate that were studied, the tendon reflexes are apparently unaffected and the results obtained in these seem to correspond in every way with those of a normal person (Fig 9)

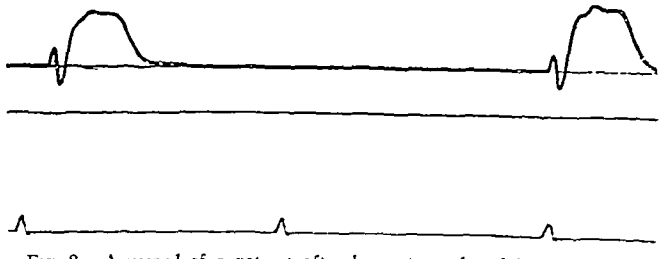


Fig 8 —A record of a patient after being treated and having his basal metabolic rate brought up to — 2 (Figs 2 a and 7) The result is practically within normal limits

The abnormally slow movement of the tendon reflexes in myxedema should be a helpful sign in the diagnosis because of its simplicity, its clear-cut nature, and its apparent limitation to this one disease When this sign is found, it should at least justify an investigation of the basal metabolism Probably no other disease gives more brilliant results when properly treated than does myxedema, and the treatment is simple and accurate if guided by basal metabolic studies The most impor-

tant point, therefore, to be brought before the internist is the fact that most patients with myxedema have had the disease for years before it is recognized

CONCLUSIONS

1 In cases of myxedema, the tendon reflexes produce such slow movement of the parts affected that the quality can be recognized without the aid of mechanical devices and is a valuable sign in the diagnosis of the disease

2 In cases of myxedema, a greater stimulation is necessary to elicit a tendon reflex than in a normal person

3 The period or time interval of a tendon reflex of any person under the same conditions remains the same,

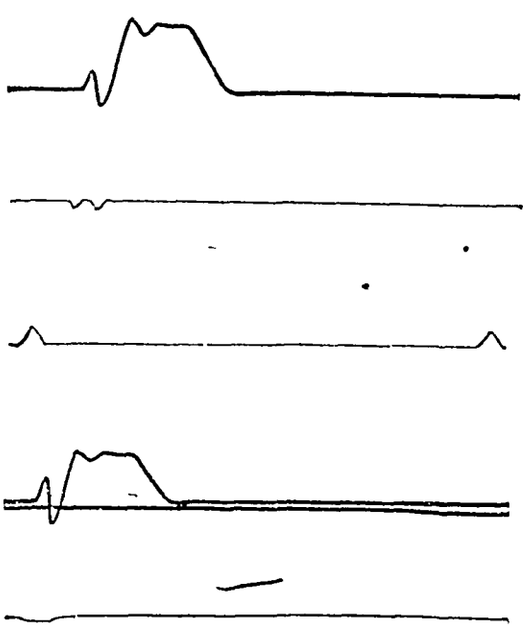


Fig 9—Graphic record of the Achilles tendon reflex in a case of pituitary tumor with a basal metabolic rate of —25

and seems independent of the amount of stimulation applied

4 In all conditions associated with a low basal metabolic rate studied to date, with the exception of myxedema, the tendon reflexes seem to correspond in every way with those of a normal person

5 When a patient with myxedema is treated and brought back to normal so that he loses the usual characteristics of this disease, his tendon reflexes also seem to return to normal, and the approach of the reflexes to normal seems to keep pace with the basal metabolic rate

**Auscultation in Pulmonary Tuberculosis**—I have had a large experience in treating chronic pulmonary tuberculosis, and I am sure that Paterson greatly exaggerates the harm which may result from auscultation I can't remember any cases that it has harmed It of course should not tire the patient These patients should be auscultated at reasonable and not too long intervals In hospital work this interval should not be longer than a month In cases with an acute process, at least once a week Auscultation is the greatest means at our command to know how the process in the lung is acting and if done quietly will not produce autoinoculations Even if the patient is doing well he should have complete physical examinations at regular intervals These intervals should be every two or three months at the outside and should be thorough so as to obtain full knowledge of the patient's condition At this examination the throat, larynx, abdomen, and testes should always be examined There is practically no danger from the examinations if properly made—Hugh M Kinghorn The Cure of Pulmonary Tuberculosis by Rest and Exercise, Boston, the Gorham Press, 1924

# SIZE OF THE NORMAL HEART

A E FOSSIER, M D
Professor of Medical Diagnosis, Post Graduate School of Medicine of the Tulane University of Louisiana
NEW ORLEANS

The determination of the size of the normal heart is of the greatest importance to cardiologists The normal size of this organ is so variable and depends so greatly on the sex, age, height and weight of the individual, that it is necessary that a basis of its normality be established, as the slightest modification of its size may reveal an underlying pathologic condition, for what may be the size of a normal heart in some individuals may in others determine a disease condition The radiologists have tried to establish a basis of cardiac normality, but because of so many unavoidable sources of error they have been to a large extent unsuccessful

The most patent errors in the delimitation of the heart area by means of the roentgen ray are size and contour of the chest, position of the heart, exact centralization of the rays, accurate focusing, deformities of the chest, deformities of the spine, embedding of the heart in the diaphragm, influence of respiratory phases on the size and shape of the heart, pericardial blood vessels, pericardial fat (extra and infra), and, especially at the apex, changes of posture and the variability of the size of the sternum

The divergence of the rays is generally a predominant factor of error A distance of 6 or 7 feet, approximately 2 meters, from the plate, is generally accepted as sufficient for teleroentgenography in this country But, according to Vaquez and Bordet,[1] the distance of 1 meter, 1 5 meters, or even 2 meters, gives too considerable a deformation of the heart silhouette It is only at 2 5 meters that the exaggeration of the heart shadow is reduced to its practical minimum, that is, the projection of an object 15 cm in size is augmented by only 4 or 5 mm They also insist that in radioscopy of precision it is necessary for the tube to be accurately centered to the region to be studied But in the vertical and small hearts a distance of 2 meters gives accurate results

The method practiced by Vaquez and Bordet[1] for teleroentgenographing the heart is the best and most exact of any of the others recommended The following is the procedure advocated by these authorities

We illuminate the radioscopic screen and by means of a diaphragm with a circular opening we so adjust it that the image of the heart is exactly contained in the interior of the luminous circle, the diameter of which should correspond exactly to the greatest diameter of the heart We then fix the patient and the tube in their respective positions, we give the diaphragm a greater opening, we place a plate instead of the screen, or between the screen and the thorax and set the apparatus in action

Any guesswork in the centralization of the tube will result in the distortion of the silhouette and in the exaggeration of the size of the heart

The following conclusions, reached by Smith and Bloedorn[2] in their essay on the size of the normal heart, reflect the generally accepted opinions of radiolologists

The method employed [Bardeen's] does not furnish satisfactory standards by which to determine if the heart is abnormal in size The failure not being due to method, but

1 Vaquez and Bordet The Heart and the Aorta
2 Smith, H W, and Bloedorn, W A U S Nav M Bull 16 219 (Feb) 1922

to great and unexplained variability in the organ studied, the difficulty will remain whatever means be used to ascertain the size of the individual heart under observation Hence, any conclusions as to the relative size of a heart based on comparative dimensions, ratios, or relations to body landmarks are fallacious, and should be applied clinically with great reserve

A century ago, Laennec, Corvisart, Cruveilhier and Bouillaud seem to have encountered the same difficulties in determining the size of the heart from the anatomic and pathologic standpoint

DIAMETERS OF THE HEART

The size of the transverse and longitudinal diameters of the heart silhouette is used by radiologists for determining its normality The area of the heart silhouette, because of the frequently incorrect transverse and longitudinal diameters and the personal equation in the mapping out of the contour of the heart image, presents errors gross enough to render this method only one of doubtful utility And the correlation of the volume of the heart with the size of the body, as advocated by Bardeen,[3] for many obvious reasons presents errors sufficient to render the method inaccurate in a large proportion of heart examinations

Smith and Bloedorn,[2] in their examination of 500 midshipmen with normal hearts (by means of the roentgen ray) conclude

> It appears to be clear that while we can ascertain accurately the size and shape of any heart, we have no means whereby we may know what the size and shape of that particular heart ought in the absence of disease, to be In this respect our results correspond with those of other observers so strikingly that we must believe the heart in normal individuals to be so variable in size that it can rarely be possible to state from a single observation whether a given heart is or is not enlarged Since this failure to evolve usable standards is not peculiar to the method employed but is plainly due to unexplained variations in the organ observed, it seems impossible to limit the application of our findings to teleroentgenology Thus, regardless of the method by which the actual size of the heart be estimated—whether by teleroentgenography, fluoroscopy, orthodiagraphy, electrocardiography, or manual percussion—and regardless of the degree of precision displayed by these several methods, we cannot escape the conclusion that, in view of the great variations in the size of the normal heart, any judgment as to the relative size of a given heart must be fallacious in the extreme

Sir James Mackenzie[4] writes

> Indeed, I am doubtful if an x-ray examination of the heart has ever thrown the slightest light on a cardiac condition

PERCUSSION

Percussion of the heart is generally acknowledged as an individual art, which in the hands of the most distinguished clinicians has yielded results more or less accurate

William Duncan Reed[5] says "The development of radiology has disclosed the limitation of percussion in determining the size and shape of the heart In fact, some authorities go to the extreme of holding that percussion is valueless as a means of diagnosing the presence or absence of cardiac enlargement" He especially emphasizes that skilful examiners may differ in the demarcation of a particular cardiac border, but that each may, as a result of experience in practicing percussion according to his method, correctly determine the presence or absence of enlargement of the heart

Danzer[6] says

To percuss a heart accurately for diagnostic purposes requires a fine technic and is, at best, difficult, especially when slight or moderate enlargement exists In fact the London school of cardiologists denies its possibility altogether even by the most expert Personally I cannot accept this extreme viewpoint

Barker[7] states that

Especially in the obese, ordinary percussion, as every one knows, is most fallacious, and even in persons of normal weight I have seen great discrepancies among percussion results of supposedly accurate clinical observers The methods of percussion in common use for the demonstration of the outline of the heart and great blood vessels certainly demand revision in the light of the x-ray findings

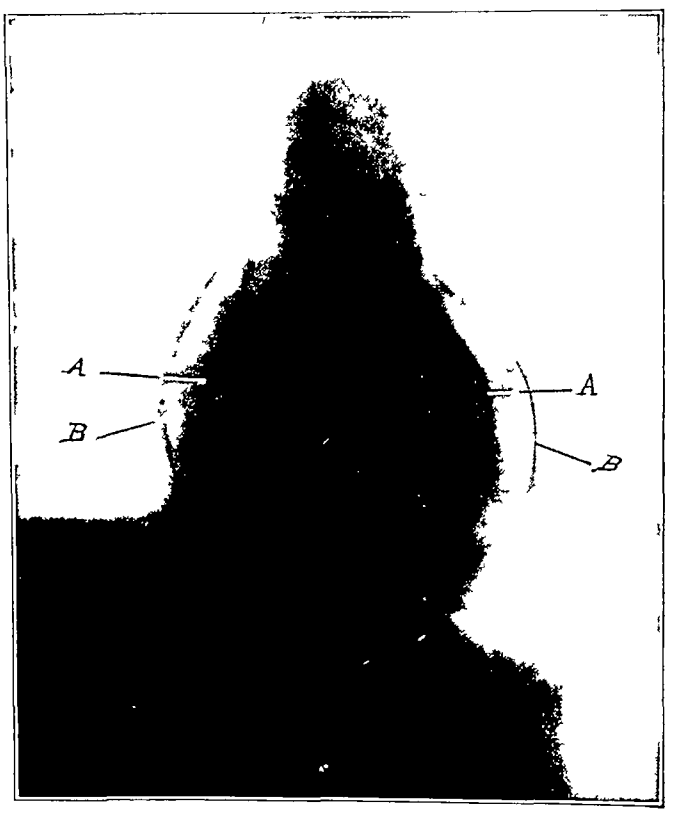



Fig 1 —Normal heart Line *A* normal size of heart corresponding to clenched fist mapped out by percussion line *B* roentgen ray and percussion outlines corresponding 6 foot plate

Claytor and Merrill[8] observe that

In almost all instances in which we felt satisfied with the efforts at percussion, the boundaries were found to be correct, but in some subjects it was absolutely impossible to outline the heart by percussion, and this, too in cases in which there was no excess of adipose tissue, or other demonstrable condition, to interfere

Neuhof[9] writes

Careful and continued use and observation of the above special as well as the usual methods of percussion checked by comparison with the unequivocal standards furnished by orthodiascopy and fluoroscopy have convinced me that all methods of percussion are inaccurate and unreliable even for clinical purposes These statements apply to percussion for superficial dulness as well as for flatness

3 Bardeen C R Am J Roentgenol **9** 823 (Dec) 1922
4 Mackenzie James Oxford Medicine
5 Reed W D The Heart in Modern Practice
6 Danzer Am J M Sc **157** 513 1917
7 Barker L F Am J Roentgenol **9** 423 (July) 1922
8 Claytor and Merrill Am J M Sc **138** 549 1909
9 Neuhof Selian The Heart.

A perusal of the literature shows that the great majority of writers on percussion of the heart hold these views on the fallacy and uselessness of this means of delimiting the cardiac borders It is my intent to demonstrate that it is possible to map out the size, shape

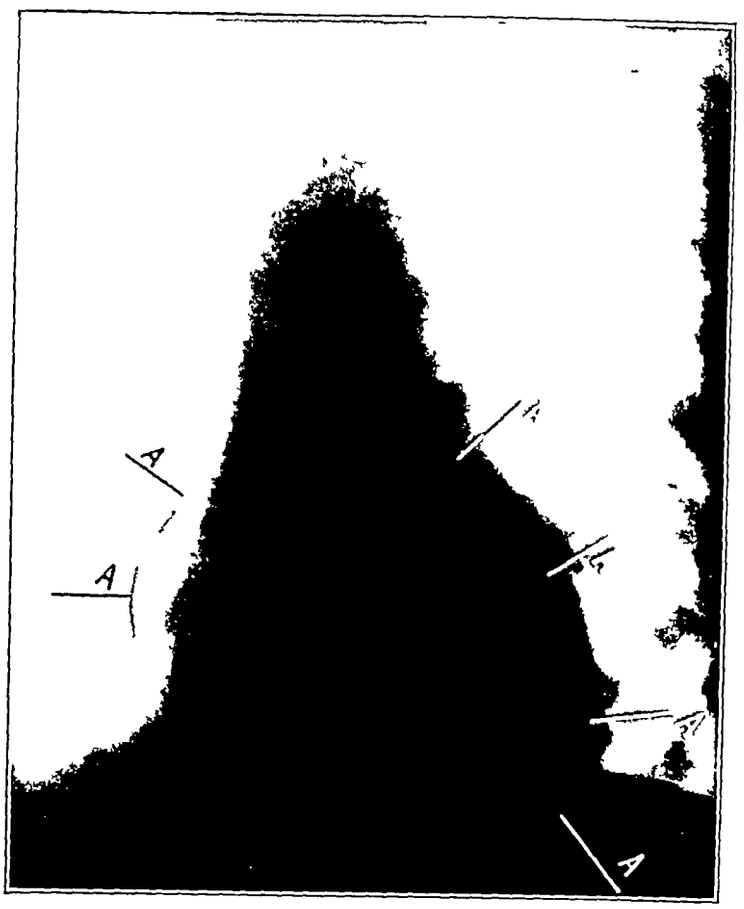



Fig 2—Normal heart Line *A*, percussion outline

and position of the heart precisely by percussion, and besides, that this method has the advantages of a greater degree of accuracy and a greater clinical value than are obtainable by means of the roentgen ray

### DROP PERCUSSION

The method I employed is Leich's drop percussion[10] This method of percussion is the easiest learned, the most mechanical, and eliminates all personal factors, it has the advantages also of the combination of three essentials the sounds are heard, the resistance is felt, and the vibrations of the hammer may be seen This method differs from others in principle A drop is used instead of a stroke A hammer and pleximeter are necessary to obtain good results The method is mechanical, easy to learn, and gives uniform results in everybody's hands because a drop is passive and cannot be changed, and the sound produced is the same, no matter who allows the hammer to drop

For many years, the accuracy of this method of percussion has been compared and tested on the cadaver and also with the cardiac silhouette of teleroentgenography I have employed the following technic The heart is first percussed, the borders determined and marked with fuse wire fastened to the skin with adhesive plaster, and the chest roentgenographed The results from the two methods may then be compared on the same film

The best proof of accuracy and of perfection of technic is to percuss the patient at different times resulting in the same size, shape and position of the heart The elimination of all personal factors and individual differences of technic may be shown by the fact that different observers skilled in the method will have the same results Once the drop method of percussion is mastered, precision may be acquired irrespective of the method employed, in fact, the tactile appreciation of the slightest resistance can be so developed that approximately accurate results may be had by means of light and gentle palpation

It is obvious that movements of the heart due to its systole and diastole and to its changes of position and shape with respiration make extremely difficult an absolutely exact comparison of the percussion image with that of the roentgen rays In fact, it is practically impossible to roentgenograph a heart in rapid succession and obtain similar outlines The patient must be roentgenographed in the same posture in which he has been percussed Another significant fact is that percussion is practiced on patients breathing normally and without exaggeration, but, when roentgenographed, the same person will invariably breathe deeply, thereby changing the shape and position of the heart It may be that some of the errors attributed to percussion when compared with the roentgenogram may be due to this important factor

### INNER LINE OF DULNESS

Percussion gives two distinctive lines of dulness, one corresponding to the roentgen-ray silhouette of the heart and the other to a more pronounced and predominant

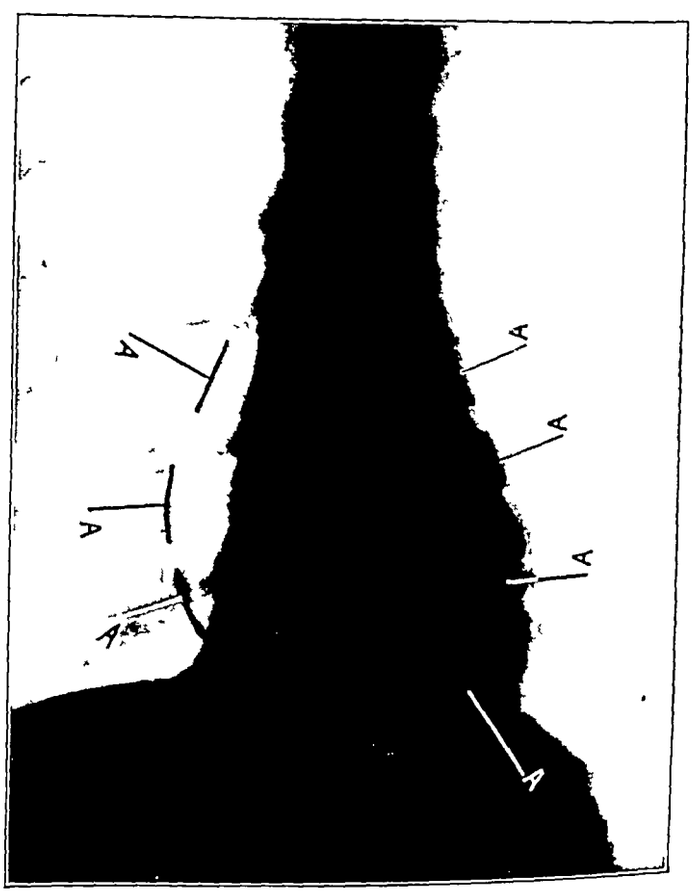



Fig 3—Dropped heart Line *A*, percussion outline, the difference in position is due to respiration

area of dulness, the size of which corresponds to the normal heart size given to us by the anatomists The first cardiac percussion outline which corresponds to that of the roentgen ray, gives the same inaccuracies and is just as unreliable in its results as the roentgen-ray silhouette The two outlines correspond fairly well, but

10 Leich Deutsch Arch f klin Med December, 1912, Internat Clin, Series 25, I, 1915, Arch Diagnosis 9 1 (Jan) 1916

their clinical value is greatly inferior to the inner line of dulness The line of dulness corresponding to the heart margin as mapped out by the roentgen ray represents the heart in diastole, together with its pericardial fat and blood vessels, etc , while the inner border as delimited by percussion corresponds to the heart itself in systole and stripped of its pericardium and its fat In Figure 1 are illustrated these two lines of dulness as

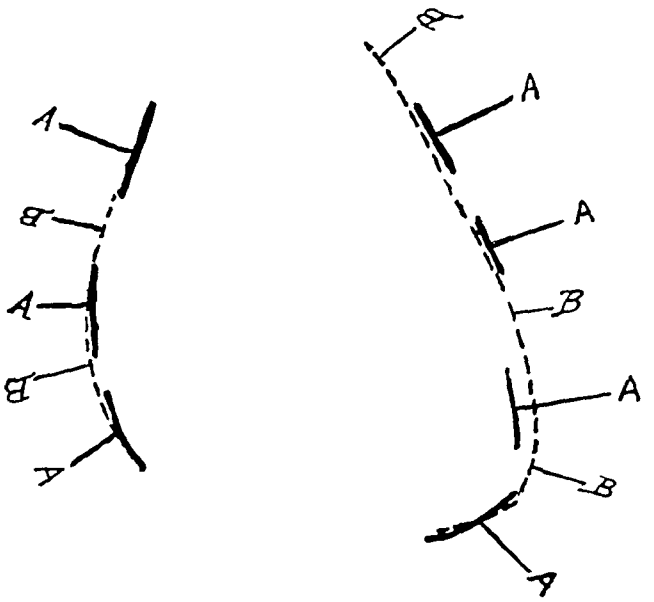



Fig 4 —Percussion and roentgen ray outlines of Figure 3 superposed by Dr Granger Line *A* percussion outline line *B* roentgen ray outline

mapped out by percussion This difference between the two margins of dulness is wider on the left heart border than on the right It varies in size in different persons There may be a difference between the two margins of dulness of from 1 to 1 5 cm in subjects having a high diaphragm and in whom the heart lies obliquely This margin diminishes as the heart assumes a more vertical posture, or in persons having a sagging diaphragm and manifesting a visceroptotic condition This variation in the size of the cardiac silhouette is the chief difficulty in the accurate determination of the normal heart size in teleroentgenography

The unreliability of teleroentgenographic measurements of the transverse diameter is pointed out by Smith,[11] who bases the following conclusion on roentgen-ray measurements made on 227 men for the purpose of securing statistics on the heart size of soldiers "The individual measurements for the transverse diameter, in individuals with the same body weight, presented considerable variation, and emphasized the danger of basing an opinion on the determination of the diameter alone" According to Dietlen,[12] the apex is almost always felt one interspace higher than the apex of the silhouette obtained by orthodiagraphy, or, if the apex beat is under a rib, at least the width of one finger higher His explanation is that the apex beat is felt in systole, while the silhouette shows the cardiac outline during diastole, and that while the heart changes slightly during the period of contraction and relaxation, such changes are greater at the apex

Eyster and Meek[13] describe a method of making rapid roentgen-ray shadowgraphs of the human heart with a casette-changing mechanism allowing two exposures within the same cardiac cycle

From their observations made on the normal heart, they state that

> The decrease in size of the cardiac area during systole may involve any of the outlines, but does not usually involve all The outline corresponding to the right auricle varies least in position, while the left ventricular outline, particularly toward the apex, is the margin which undergoes as a rule the greatest movement The border of the right ventricle nearly always shows a descent at the base The part of the left ventricular border may likewise vary Usually the maximum change is at or near the apex and decreases upward, but the reverse may be seen

These observations explain the fact that the difference betwen the size of the teleroentgenographic and the anatomic heart is very much less in the vertical than the horizontal heart The greatest change in the size and shape of the vertical heart due to its systole and diastole is downward, the apex being more to the right and down As the heart increases its obliquity, this difference in its size is increased This can be easily demonstrated either by percussion or with roentgen rays by pressing the lower abdomen, which causes the heart to rotate upward and to the left, and its transverse diameter to increase

## SIZE OF THE NORMAL HEART

Laennec wrote "I think according to my dissections that I am able to determine the natural proportions of the heart in the following manner, which, although

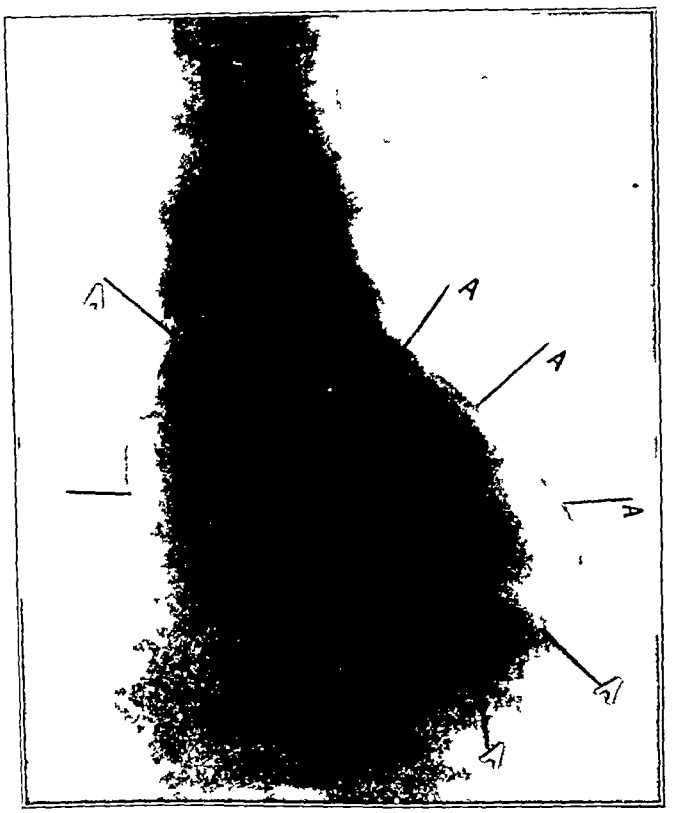



Fig 5 —Slightly dilated heart Line *A* percussion outline.

approximate, is certainly of sufficient exactitude The heart, including its auricles, has a volume slightly inferior, equal or very slightly superior to the volume of the fist" This approximate relationship of the size of the fist to that of the heart has been accepted by anatomists

11 Smith Bertnard Teleroentgen Measurments of the Hearts of Normal Soldiers Arch Int Med 25 522 (May) 1920
12 Dietlen Deutsch Arch f klin Med 88 55 1907
13 Eyster J A E and Meek W J Am J of Roentgenol 7 471 (Oct ) 1920

The size of the normal heart, as handed down to us by Bouillaud in 1841, and confirmed by other anatomists, is approximatively 12 cm from the base to the apex, and 8 8 cm at its broadest Gray's dimensions are, from base to apex, 12 cm , across at its broadest, 8 9 cm Pierrsol's, from base to apex, from 12 to 15 cm , and at its greatest breadth, from 9 to 11 cm Morris', from base to apex, from 12 to 15 cm , and at its broadest, 8 7 cm Davis [14] says "The heart is somewhat larger than the clenched fist" Cunningham [15] says "And it is roughly estimated as being about the same size as the clenched fist"

In Camp Beauregard, in 1917, I mapped out by percussion the borders of the heart of 257 normal soldiers with the object in view of determining the size of the normal heart Two diameters were considered the transverse, which corresponds to the greatest width of heart is the transverse, as it is the one used in com son with the size of the fist The longitudinal diar is valuable so far as it corresponds with the transv The lengths of the two diameters are approximatel same A greater length of the longitudinal is signif of a dropped heart, provided the transverse diamet normal in size and the heart is normal

The size of the hands varies in all persons The a close relationship between the stature of a person the size of his hands Persons who have wide thora short necks, wide costal angles, and wide but sl sternums, have wide, thick hands and short fing Those who have elongated chests, with narrow co angles and elongated narrow sternums have narr slender hands with long, slim fingers In the f instance, the heart will lie in an oblique position, w supported by the diaphragm, with wide transve

*Size of the Transverse and Longitudinal Diameters of Normal Hearts of Two Hundred and Fifty-Seven Soldiers Percussed Standing*

| Height | 5'2" | | 5'3" | | 5'4" | | 5'5" | | 5'6" | | 5'7" | | 5'8" | | 5'9" | | 5'10" | | 5'11" | | 6' plus | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight In Pounds | T D in Cm | | L D in Cm | | T D in Cm | | I D in Cm | | T D in Cm | | I D in Cm | | T D in Cm | | L D in Cm | | T D in Cm | | L D in Cm | | T D in Cm | | T D in Cm | | I D in Cm | |
| 100 to 109 | | | | | | 7 8 | | 8 00 | | | | | | | | | | | | | | | | | | Average |
| 110 to 119 | | | | | | | | | | 8 5 | | 8 5 | | 8 5 | | 8 00 | | | | | | | | 8 5 | | 8 25 | Average |
| 120 to 129 | 8 1 | | 8 9 | | 8 10 | | 8 5 | | 7 5 | | 7 5 | | 7 5 | | 7 5 | | | | | | | | | 7 5 | | 7 5 | Minimum |
| | 8 75 | | 9 2 | | 8 8 | | 8 9 | | 8 75 | | 8 56 | | 9 00 | | 9 00 | | | | | | | | | 8 8 | | 8 8 | Average |
| | 8 5 | | 9 5 | | 9 00 | | 9 5 | | 9 7 | | 8 5 | | 10 0 | | 10 0 | | | | | | | | | 10 0 | | 10 0 | Maximum |
| 130 to 139 | 8 00 | | 8 00 | | 8 00 | | 8 00 | | 7 5 | | 7 5 | | 7 5 | | 8 5 | | 8 00 | | 8 00 | | | | | 7 5 | | 7 4 | Minimum |
| | 8 5 | | 8 5 | | 8 8 | | 8 9 | | 8 96 | | 9 10 | | 9 07 | | 9 12 | | 9 0 | | 9 4 | | | | | 9 03 | | 9 13 | Average |
| | 9 5 | | 9 5 | | 9 00 | | 10 0 | | 10 0 | | 10 5 | | 10 0 | | 10 0 | | 10 5 | | 11 4 | | | | | 10 5 | | 11 4 | Maximum |
| 140 to 149 | 9 00 | | 9 00 | | 8 4 | | 9 5 | | 7 8 | | 7 4 | | 8 2 | | 8 2 | | 8 00 | | 8 00 | | | | | 7 8 | | 7 4 | Minimum |
| | 9 15 | | 9 00 | | 9 00 | | 9 3 | | 8 03 | | 8 77 | | 8 80 | | 9 22 | | 9 07 | | 9 06 | | | | | 8 9 | | 9 08 | Average |
| | 9 3 | | 9 00 | | 9 00 | | 10 0 | | 10 0 | | 10 0 | | 10 0 | | 10 0 | | 10 0 | | 10 0 | | | | | 10 0 | | 10 0 | Maximum |
| 150 to 159 | | | | | 8 00 | | 8 00 | | 8 00 | | 8 5 | | 8 2 | | 8 5 | | 8 00 | | 8 00 | | | | | 8 00 | | 8 00 | Minimum |
| | | | | | 8 71 | | 8 52 | | 9 07 | | 9 16 | | 9 18 | | 9 21 | | 9 00 | | 9 14 | | | | | 9 08 | | 9 12 | Average |
| | | | | | 10 5 | | 10 5 | | 10 0 | | 10 5 | | 10 0 | | 10 0 | | 10 5 | | 10 5 | | | | | 10 5 | | 10 5 | Maximum |
| 160 to 169 | | | | | 9 00 | | 8 7 | | 8 00 | | 9 5 | | 9 00 | | 9 00 | | 8 3 | | 8 3 | | | | | 8 3 | | 8 3 | Minimum |
| | | | | | 9 5 | | 9 1 | | 8 98 | | 9 00 | | 9 46 | | 9 36 | | 9 05 | | 9 00 | | | | | 9 12 | | 9 16 | Average |
| | | | | | 10 0 | | 9 5 | | 9 3 | | 9 00 | | 10 0 | | 10 0 | | 10 0 | | 10 0 | | | | | 10 0 | | 10 0 | Maximum |
| 170 to 179 | | | | | | | | | 9 00 | | 9 00 | | 9 00 | | 9 00 | | | | | | 8 5 | | 9 00 | 8 5 | | 9 00 | Minimum |
| | | | | | | | | | 9 5 | | 9 33 | | 9 25 | | 9 25 | | 9 5 | | 10 0 | | 8 33 | | 9 18 | 9 22 | | 9 23 | Average |
| | | | | | | | | | 10 0 | | 10 0 | | 9 5 | | 9 5 | | | | | | 9 5 | | 9 5 | 10 0 | | 10 0 | Maximum |
| 180 to 189 | | | | | | | | | | | | | | | | | | | | | 9 00 | | 9 00 | 9 00 | | 9 00 | Minimum |
| | | | | | | | | | | | | | | | | | 9 00 | | 9 00 | | 10 2 | | 10 0 | 10 0 | | 9 89 | Average |
| | | | | | | | | | | | | | | | | | | | | | | | | 10 2 | | 10 0 | Maximum |
| Total average | | | | | | | | | | | | | | | | | | | | | | | | 9 0 | | 9 27 | |

T D transverse diameter, L D, longitudinal diameter The transverse diameter in every case corresponded to the size of the clenched fist

the heart, and the longitudinal, which begins at the intersection of the right contour of the heart and the origin of the great blood vessels and extends to the apex The results of these researches are tabulated according to the height and weight of the individual These dimensions of the transverse diameters of the heart at its broadest correspond with those given by the anatomists Not only these 257 hearts, but many thousands examined by me during the last ten or more years, correspond invariably to the size of the fist of the individual when normal This correlation of the clenched fist and the normal heart is constant and is the only practical determinant of its normality The slightest variation in its size is recognized

The transverse diameter of the heart corresponds to the linear measurement of a line beginning at the juncture of the inner side of the right clenched fist and the wrist, and ending at the middle joint of the fourth finger (Fig 6) The most important diameter of the diameters, which, if normal, will correspond to the size of the clenched fist In the other instance, the heart will be elongated and its transverse diameter narrow, but the longitudinal diameter will be greater than the transverse

Again, the relationship of the heart at its broadest with the fist of the individual will be practically exact Those who have a big fist have a big heart, and those who have a small fist have a small heart The size of the heart as well as that of the hands is influenced by the same factor, physical work Brezina and Lebzelter [16] of Vienna have observed that vocations involving manual labor affect the breadth and thickness of the hand, not its length, and that the two—dimensional enlargement of the hands of persons engaged in manual tasks calling for considerable muscular effort is in the nature of a functional hypertrophy, involving the skin and contractile tissues

14 Davis Applied Anatomy
15 Cunningham Anatomy

16 Brezina E , and Lebzelter, V Arch f Hyg **92** 53, 1923, cited in The Dimensions of the Human Hand, editorial, J A M A **81** 2119 (Dec 22) 1923

COMMENT

A study of the roentgenograms shows the close approximation between the size and shape of the percussed and teleroentgenographed heart Figure 4 is a superposition of the percussed and the roentgenographed outlines of the heart in Figure 3 In Figure 3 is the dropped heart of a marked visceroptotic tall man The percussion and the roentgen-ray figures practically coin-

Fig 6—Linear measurement of the fist corresponding to the size of the transverse diameter of the normal heart

cide in shape and size The difference in the position of the heart is due to respiratory changes The interesting features in this case are the absence of pulsation at the apex, and a marked diffused pulsation below the ensiform cartilages and the fact that, because of the extreme vertical position of the heart, there is only one line of dulness that corresponds to the roentgen-ray outline This is characteristic of a dropped heart, the difference between the two lines of dulness diminishing as the vertical position of the heart is increased The longitudinal diameter of 11 7 cm, as compared with the transverse diameter of 9 5 cm, is significant of a markedly dropped heart In the other roentgenograms, the size of the heart is exaggerated in both the percussion and the roentgen-ray outlines This exaggeration is variable, for, while it is practically negligible in the vertical heart, it increases considerably as that organ's obliquity is intensified

CONCLUSIONS

1 Radiology has not furnished a basis for the determination of the normality of the heart's size

2 Percussion is of greater value in delimiting the cardiac area

3 The correlation of the normal sized heart and the fist of the individual is constant, and is the only practical determinator of the size of the normal heart

4 The linear dimensions of the transverse diameter of the heart correspond to a line drawn from the juncture of the inner side of the right hand and the wrist, and ending at the middle joint of the fourth finger

5 The determination of the size shape and position of the heart is a dominant factor in the diagnosis of its pathologic conditions

1216 Maison Blanche Building

# MELANOMA

## REPORT OF A CASE APPARENTLY PRIMARY IN THE JEJUNUM, THE PRESENTING SYMPTOMS RESULTING FROM METASTASIS IN THE HYPOPHYSIS CEREBRI

H HOYT COX, M D
AND
LEROY H SLOAN, M D
CHICAGO

Melanoma, melanosarcoma, or melanocarcinoma is a malignant tumor growth composed of pigmented cells Ewing [1] inclines to the view that tumors of this type arise from a specific mesoblastic cell, the chromatophore, and possibly also from cells of the epithelial type which have been modified by pigment production He writes "Theoretical considerations favor the origin of all melanomas from the mesoblastic chromatophore, while the histology favors their origin from epithelial cells which have taken on pigmentary function The established tumors exhibit carcinomatous or sarcomatous structures, or both"

The melanomas are usually primary in the skin as pigmented moles of congenital origin They may remain quiescent for a long period, or they may become rather early malignant in character They are also found primary in the choroid of the eye, the iris, the pigmented areas adjacent to the conjunctiva, the pia mater, the arachnoid, the rectum and, less frequently, in other organs

Melanomas are found in animals, particularly in horses, in fact, melanomas of the rectum in horses were among the first tumors observed in veterinary surgery

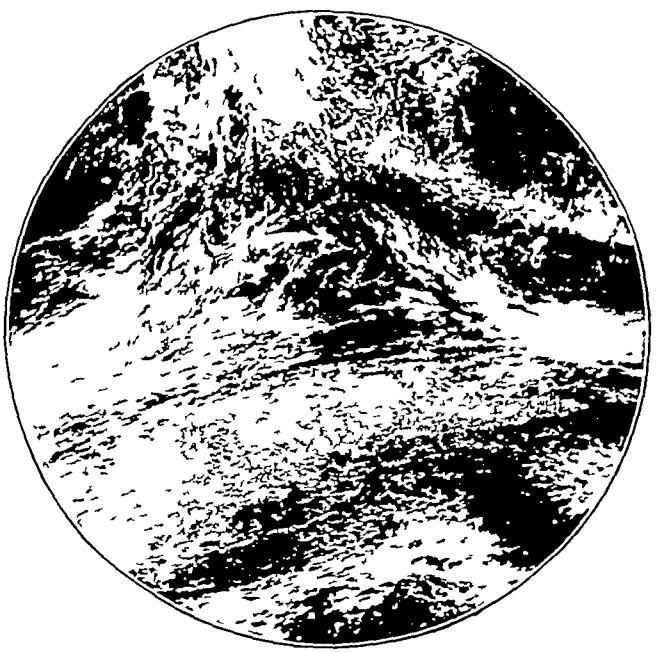


Fig 1—Section from primary growth slightly reduced from a photomicrograph with a magnification of 70 diameters

Vieborg of Copenhagen,[2] at the end of the eighteenth century, and Brugnone [3] in 1781 described the condition The first mention of melanomas in man was made in 1806 by Laënnec [3] In 1863, Ashton [4] observed the

1 Ewing Neoplastic Diseases 1919
2 Haras de Chivasso 1781
3 Laennec, quoted by Chalier and Bonnet (Footnote 6)
4 Ashton Les maladies du rectum et de l anus

similiarity of melanomas of horses to the same condition found in man Virchow,[5] in 1864, described a sarcomatous and carcinomatous form of melanoma In 1869 he reported a case of rapidly malignant pigmented tumor of the rectum Chalier and Bonnet[6] have compiled 100 cases of primary melanoma of the rectum In their series they comment on the fact that the condition of generalized metastases in the intestinal canal was observed only three times, and then at necropsy Ewing[1] reports a cecal melanoma in a child, aged 8 Wieting and Handi[7] report a supposed primary melanoma of the gallbladder Vander Veer and Kellert[8] report a melanotic sarcoma of the middle section of the ileum Duval[9] has reported a case of melanotic sarcoma apparently primary in the common bile duct Libman,[10] in his article on sarcoma of the small intestine, calls attention to Treves' case of melanosarcoma of the ileum with infiltration of the

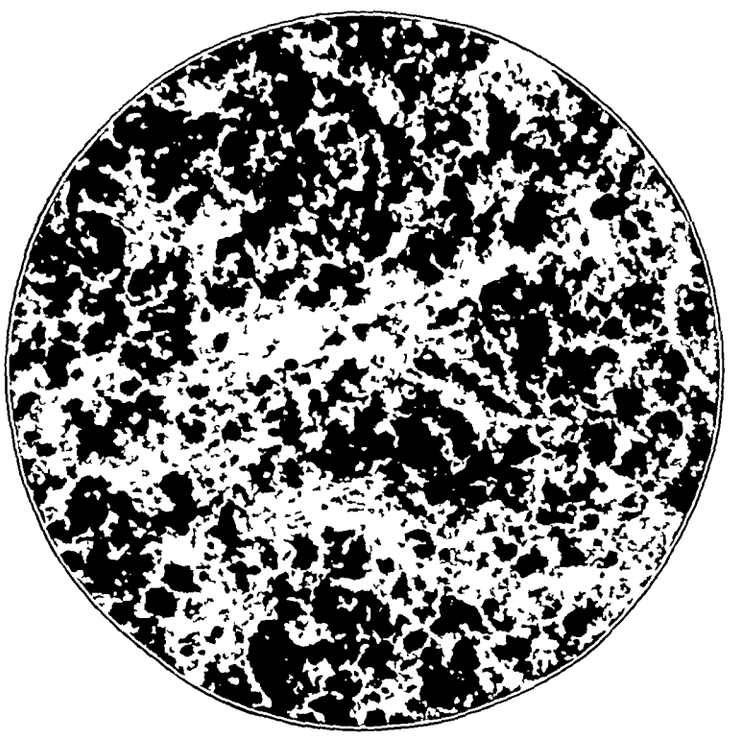


Fig 2—Section from primary growth, slightly reduced from a photomicrograph × 150

inguinal glands New and Hansel[11] report a primary melano-epithelioma of the palate, and discuss the literature

The extreme rarity of primary melanoma of the gastro-intestinal tract warrants the report of the following case The involvement of the pituitary may be of interest in connection with the supposed function of certain endocrine glands

## REPORT OF CASE

*History*—L F, a man, aged 54, had been in good health until early in January, 1923, when he began to complain of generalized aching, weakness, loss of ambition, reduction in sexual desire and power, and slight headache He soon became languid, drowsy, inattentive and weak, and desired to be left alone. These symptoms progressed gradually, and became associated with severe frontal headache and uncontrollable yawning At that time, a diagnosis of epidemic (lethargic) encephalitis or frontal lobe tumor was made, the former in view of a relatively recent, mild, mixed infection, the latter based on the headache, mental change, character change, drowsiness, lack of choked disk, absent localizing findings and yawning (a not infrequent accompaniment of frontal tumors although it is associated with tumors elsewhere and, of course, with epidemic encephalitis) However, by the latter part of April the patient developed intense drowsiness, nonprojectile vomiting, severe, deep seated, frontal, headache, buzzing in the ears, prostration, polydipsia, polyuria and diplopia At that time, there was noted a peculiar branny desquamation of the skin, and a pronounced failure in the growth of hair The headache increased in severity and was associated with vomiting, which came on shortly after the ingestion of food

*Examination*—June 22, somewhat more than six months after the initial symptoms, on the basis of the symptomatology presented above, Dr Lewis Pollock made a diagnosis of pituitary tumor Then, there was also present a paretic, right external oblique muscle, the right pupil was larger than the left, the left knee jerk was absent, and there was a positive left Babinski reflex and a suggestion of an hemianopia Spinal puncture was done shortly The fluid was under increased pressure, tests showed a slightly increased amount of globulin, there was a normal cell count, with a negative Wassermann reaction Following this puncture, the patient improved rapidly The headache disappeared, drowsiness became less and vomiting stopped, there was less frequent urination, and the total quantity was decreased This improvement was temporary

Further hospital study revealed the following in addition to the findings noted above no hemianopia, eyegrounds normal, abdominal and cremasteric reflexes, normal, normal sellar shadow, no suprasellar calcification, blood count, normal, the examination of the urine was reported negative for pathologic products (it is unfortunate that no test for pigment was made) The blood pressure was systolic, 130, diastolic, 85, the left lower lung showed a rounded shadow about 4 cm in diameter, a gastro-intestinal roentgen-ray examination was negative, except for gastric retention and the grouping of the intestines in the midline as if such a position were caused by adhesions A cough productive of bloody sputum developed, the vomiting continued and was now of the projectile type, the patient refused nourishment, lost weight rapidly, showed ascites and pleural effusion, became maniacal and then stuporous, and shortly afterward died

*Necropsy*—The organs were brought *en masse* to the University of Chicago and were thoroughly examined there by H Gideon Wells The main findings, indicated by the anatomic diagnosis, were malignant melanoma, apparently arising in the upper part of the jejunum with infiltration of the adjacent lymphatics and mesenteric lymph nodes, extensive secondary involvement of the liver, gastric and intestinal mucosa, pleura, peribronchial lymph nodes, heart muscle, brain and the left lung, tumor metastases in the posterior lobe of the hypophysis and the infundibulum, and in the pleura, peritoneum, vesical mucosa, dura mater, pericardium and the skull, slight infiltration of pancreas, peripancreatic and hepatic lymph nodes, occasional metastases in both kidneys and one subcutaneous metastasis, bilateral hypostatic pulmonary edema, moderate ascites and hydrothorax, Meckel's diverticulum, a slight degree of senile sclerosis of the aorta, a cyst in the left kidney

The external surface of the body was examined carefully for a possible primary growth, but nothing of the sort could be found There was a slightly raised pigmented mole in the right posterior scapular region, light brown, and about 7 mm in diameter Microscopically, this was found to be a simple slightly pigmented mole with no evidence of malignant transformation Both eyes were removed, but careful examination revealed no indications of any abnormality, and certainly no melanotic tumor was present in either Only one minute, subcutaneous metastatic nodule was found, that being beneath the skin of the left thigh

What seemed to be the primary growth was located in the jejunum This, the most extensive tumor growth, involved a loop at a point beginning about 30 cm below the pyloric orifice, where the jejunum showed an extensive diffuse infiltration of

5 Virchow Pathologie des tumeurs
6 Chalier and Bonnet Rev de chir **46** 47 1912
7 Wieting and Handi quoted by Ewing (Footnote 1)
8 Vander Veer E A, and Kellert, E New York State J Med **17** 335 (July) 1917
9 Duval Montreal M J **37** 270 1908
10 Libman American J M Sc **120** 1900
11 New G B and Hansel, F K Melano Epithelioma of the Palate, J A M A **77** 19 (July 2) 1921

the serosa with pigmented tissue for a distance of approximately 20 cm There was no obstruction to the bowel, although the bowel wall was diffusely thickened by tumor tissue up to 1 cm thick This lack of obstruction has been commented on as being rather characteristic of sarcoma of the intestine as opposed to the well known obstruction produced by carcinoma The mucosa was densely infiltrated with tumor tissue, and, for a distance of about 8 cm in the center of this area, the mucosa was completely replaced by tumor tissue showing a slight ulceration Passing from this central zone, the infiltra-

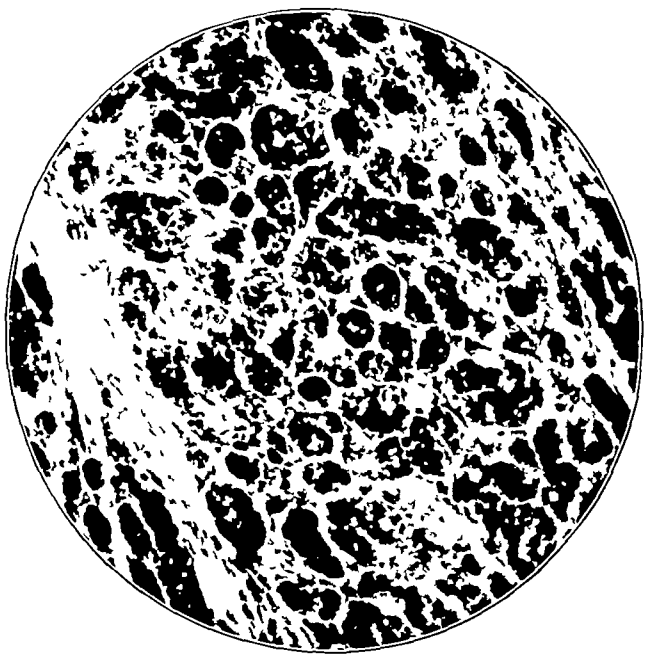


Fig 3 —Section from a nodule in the intestine slightly reduced from a photomicrograph × 150

tion of the mucosa in each direction became less and less marked, and, at the margins, of this area, the mucosa appeared merely speckled with pigment There were few distinct tumor nodules in the mucosa outside its central area of dense infiltration The lymph nodes of the mesentery immediately adjacent to this area formed a soft mass about 5 by 6 cm, connected with the growth by strands of tumor tissue extending in the mesenteric lymphatics Extensive invasion of the mesenteric lymphatic vessels radiating from the growth to the mesenteric lymph nodes is so characteristic of primary neoplasm that, considering this condition together with the general character of the large tumor growth in the small intestine and the absence of any other growth suggestive of a primary tumor, there seems to be little room for doubt that this was the starting point of the entire process

Other findings of interest were obtained The peritoneal cavity contained about a liter of bloody fluid and, although there were no tumor nodules in the peritoneum, there was a distinct diffuse pigmentation of the peritoneal surface, particularly in the inguinal region There was a bloody exudate about 600 to 700 c c in each pleural cavity despite the absence of tumor metastases in the pleural surfaces The pericardium contained a normal amount of fluid although the epicarduim was studded with minute, black tumor nodules, especially over the auricles

The heart was extensively invaded by metastases The endocardium of the right ventricle was speckled with innumerable tumor nodules, as were also the auricles, the largest nodule being about from 2 to 3 mm in diameter in the interventricular septum, however, there was a tumor nodule about 12 by 18 mm The myocardium was everywhere studded with minute tumor nodules

The lungs showed a great number of minute black tumor nodules in the pleura, especially in the lower right lobe most of them from 1 to 2 mm in diameter The dependent portion of the lower lobe was boggy, but it showed no definite areas of consolidation The cut surface was moist and exuded frothy fluid, but showed no areas of consolidation and no visible tumor growth There was one tumor nodule in the lower lobe about 1 c c in diameter The left lung exhibited a small number of pleural tumor nodules and showed a similar hypostatic edema The anterior surface of the lower lobe contained a nodule 3 or 4 cm in diameter, beneath the pleura, extending about 3 cm into the lung, and composed of black-brown tumor tissue Two nodules about 1 5 cm in diameter were located close at hand The lymph nodes at the hilum of the left lung were enlarged, hard and black, and infiltrated with tumor tissue There was less involvement on the right side and at the bifurcation of the trachea No healed tuberculous lesions or acute pneumonic foci were found

The liver was about normal in size, despite extensive involvement by masses of pigmented tumor growth The largest in the anterior surface measured approximately 8 cm in diameter, and there were several nodules measuring from 2 to 4 cm Between the tumor nodules, the liver tissue seemed approximately normal The two lobes were involved about equally by metastases The liver weighed 1,620 gm, of which approximately one fifth was tumor tissue

Except for the large mass in the jejunum, the alimentary canal showed but slight involvement The mucosa of the stomach was spotted with flat pigmented spots up to 2 mm in diameter, many of these were of pin point size The same was true in the duodenum The mucosa of the large intestine showed no tumor involvement The small intestine, however, showed occasional pigmented spots Some of the largest of these spots were ulcerated, this distribution was irregular, and nowhere were the intestinal spots numerous except in the case of the large mass in the jejunum previously described About 50 cm below, this mass was one ulcerated mucosal nodule 2 cm in diameter The colon showed no tumor masses, although there were occasional pigmented spots in the serosa The appendix showed no involvement by the tumor tissue It had a mesentery of its own, contained numerous fecal concretions, and was free There was a Meckel's diverticulum about 8 cm long, with a lumen about the same size as the intestine

The kidneys contained only a few small tumor nodules, the largest about 3 mm in diameter No tumor growth could be found in the suprarenals The urinary bladder mucosa was flecked with numerous tumor nodules, but otherwise was normal, and there were no tumor growths in the prostate

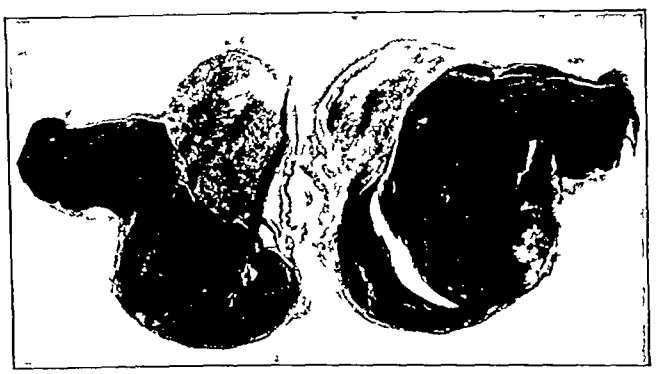


Fig 4 —Cross section through hypophysis, showing involvement of posterior lobe and infundibulum infiltration into the anterior lobe and normal tissue reduced from a photomicrograph × 6

The brain was normal in size, weighing 1,300 gm In the dura over the cerebrum were several small pigmented spots, not adherent to the skull The pia arachnoid showed no tumors The entire infundibulum was black, and thickened to 2 or 3 mm in diameter This condition stopped abruptly just below the tuber cinereum The pigmentation continued into the hypophysis Apparently the posterior portion of the hypophysis was full of black pigment, but the gland as a whole was not much enlarged The sella turcica was neither involved nor enlarged No tumors were seen on the external portion of the brain Transverse sections through the hardened brain showed numerous tumor growths The largest was in

the white matter of the right occipital lobe near the mesial surface and near the parieto-occipital fissure, measuring 3 cm transversely, 2 cm anteroposteriorly, and from 1 to 1 5 cm vertically A nodule about 1 cm in diameter lay beneath this, near the inferior surface of the lobe Another large nodule was present beneath the floor of the left lateral ventricle just above the crus, this measured about 2 cm transversely, 1 5 cm anteroposteriorly, and from 0 5 to 1 cm vertically A nodule about 2 5 cm long by 1 5 cm thick filled the right lateral ventricle in its entire extremity, arising from and nearly replacing the right lenticular nucleus, with a small nodule in the white matter beneath the right inferior frontal fissure A small nodule, measuring from 7 to 8 mm, was found in the white matter beneath the mesial surface of the left lobe under the collosomarginal gyrus No nodules were found in the gray matter of the cerebrum, and none in the pons, medulla or cerebellum

The bones grossly showed no evidence of tumor with the exception of the calvarium, which was full of small secondary growths in the form of black spots, and the ethmoid plate was infiltrated with black tumor tissue

The tumor everywhere was most intensely pigmented, of a deep brown, and the tumor cells themselves could rarely be seen because of the amount of pigment Where these were visible they were found to be of medium size, round or oval with uniform granular nuclei, and a fair amount of cytoplasm

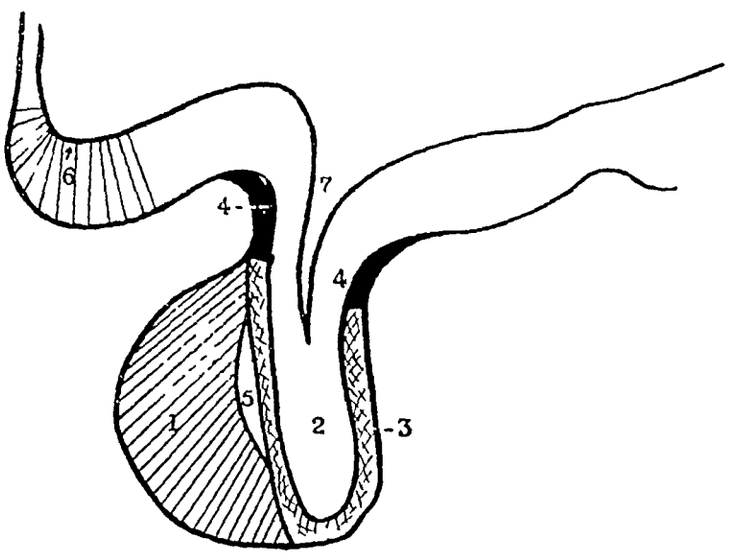



Fig 5 —Diagrammatic sketch of hypophysis Modified from Tilney The figures represent 1, anterior lobe, 2 3 4 posterior lobe, 2, pars nervosa, with neural stalk and infundibulum, 3 pars intermedia, 4, pars tuberalis, 5, residual lumen, 6, optic chiasm, 7, third ventricle

They were usually arranged in small alveoli, and they grew through the tissue spaces and lymphatics The pigmented cells were often enormously enlarged by the pigment In addition to the tumor nodules, small foci of tumor cells were found distributed widely throughout the body

In the lungs, many of the capillaries were packed with pigmented cells, and these were found free in the blood in the large vessels as well as in the alveolar spaces

In the kidneys, masses of pigment granules were found in some of the tubules, and occasionally pigmented cells were present in the glomerular capillaries Otherwise the kidneys showed little change

The hypophysis showed a massive infiltration involving the infundibulum, completely replacing the posterior lobe and all but a small portion of the anterior lobe, which remained compressed but otherwise normal in appearance

The pigmented tumor cells seemed to cause no inflammatory reaction and no degenerative changes in the tissue adjacent to them In the large tumor nodules, the original tissues had been totally replaced

## COMMENT

The important pathologic and clinical findings in connection with this case are (*a*) the primary origin of a melanoma in the jejunum, (*b*) the extensive metastases, (*c*) the multiplicity of symptoms, (*d*) the absence of definite localizing signs, (*e*) the evidence of involvement of the pituitary with a more or less selective action on the infundibulum and posterior lobe

The pars nervosa of the hypophysis is a downgrowth from the floor of the midbrain, and develops into a bulbous process, the infundibular body, attached to the tuber cinereum by a slender neural stalk, the epithelial portion arises from an ectodermal evagination of the vault of the oral cavity, Rathke's pouch, grows backward and adheres to the floor of the midbrain The downgrowth of the pars nervosa carries with it a thin layer of epithelial cells, the pars intermedia, which covers the infundibular body By lateral budding, another epithelial portion, the pars tuberalis, surrounds and becomes attached to the neural stalk and tuber cinereum (summarized from Towne)

The exact function of the hypophysis as a whole or its component portions as individual structures is unknown Many clinical symptoms have been ascribed to overactivity of this particular gland, which might well have been caused by either altered secretion or reduced secretion The signs and symptoms that may be regarded as quite definitely related to a pathologic condition present in or about the pituitary body are adiposity, drowsiness, dry skin, pronounced asthenia, polyuria, alteration in the growth of hair, sexual disturbance, particularly reduced desire and power, subnormal temperature and dulness Symptoms and signs are ascribed to the anterior lobe by some, and the same symptoms and signs apparently quite as well referred to the posterior lobe by others As yet, the results of anterior lobectomy, posterior lobectomy, high stalk section, low stalk separation, infundibular irritation and the like remain quite undecided

A patient is observed who exhibits a metastatic tumor involving a portion of the neural stalk, the entire infundibulum, completely replacing the posterior lobe of the hypophysis and partially infiltrating the anterior lobe although leaving a considerable portion undisturbed Clinically, the patient shows pronounced drowsiness, generalized and marked asthenia, interference with the growth of hair, branny desquammation, polyuria, polydipsia, no glycosuria, reduction and rapid loss of sexual function, but there is no enlargement of the hypophysis sufficient to produce pressure erosion of either clinoid, or any chiasm disturbance resulting in definite hemianopia The latter consideration is of some importance in ruling out the frequent reference made to regional pressure of pituitary tumors as causal factors in the production of the foregoing symptoms, rather than to alteration in the gland itself

We believe that the symptoms are dependent on the more or less selective infiltration of the hypophysis and especially that of the infundibulum and posterior lobe The persistent yawning may be due to the same condition, although it is well recognized that such a symptom is found in epidemic encephalitis, frontal lobe tumors [12] and tumors elsewhere in the brain [13] It is also well known that increased intracranial pressure from even so remote a tumor as one in the cerebellum may produce the symptoms of pathologic changes in the pituitary to the extent of producing glycosuria The mechanism of such a result may be (1) obstruction to the secretion from the hypophysis, (2) stimulation of the hypophysis, (3) irritation by tension of the walls of the recessus infundibuli, or as suggested by recent work,

12 Kennedy, Foster, in Nelson's Loose Leaf and Living Medicine
13 Bailey, Percival A Study of Tumors Arising from Ependymal Cells, Arch Neurol & Psychiat 11 1 (Jan) 1924

(4) the production of a lesion of the para-infundibular hypothalmic region [14]

The diffuseness of the cerebral metastases makes an absolute interpretation of the neurologic findings quite impossible The pyramidal tract interference seems due to the presence of the mass in the region of the lenticular nucleus Perhaps, if the patient had been able to respond dependably, we should have been able to demonstrate the occipital lobe involvement

1180 East Sixty-Third Street—6701 Stony Island Avenue

## THE UNILATERAL FUSED KIDNEY

REPORT OF CASE

RALPH L DOURMASHKIN, M D
NEW YORK

Of congenital renal anomalies, the unilateral fused kidney is probably the rarest Hunter,[1] in 1785, presented the first authentic case, and since then scattered reports appeared in the literature, which were reviewed by Stein [2] The rarity of the condition may be surmised from the fact that of thirty-four renal anomalies found by Stewart and Lodge [3] in 6,500 necropsies, only one unilateral fused kidney was encountered Morris,[4] in 15,908 necropsies, also found only one case

The greatest majority of the unilateral fused kidneys were discovered on necropsy, the patients having died from some other causes, while in a few instances the condition was found on the operating table Colmers [5] was the first to recognize the anomaly in a living patient by double ureteral catheterization and pyelography Since then five more cases were reported by Stein [6] (one case), Bugbee and Losee [7] (two cases), and, more recently, by Hyman [8] (two cases), in which the diagnosis was made by the same procedure The case cited here is, therefore, the seventh on record Although the condition is easily demonstrated by pyelo-ureterography, it is evident that, with the advent of this procedure and its application in thousands of cases within the last decade, the number of cases reported was not materially increased

Unilateral fused kidney should not be mistaken for a horseshoe kidney In the latter, the fusion occurs either at the upper or at the lower poles, and the kidneys are placed on each side of the vertebral column, being united by an isthmus of renal or fibrous tissue In the unilateral fused kidney there is a transposition of one kidney to the opposite side, and the fusion with the other kidney is more or less complete The result of the fusion is a large, usually lobulated kidney mass situated on one side, or, in exceptional instances, in front of the vertebral column (the so-called "prevertebral kidney"), with two separate pelves and two ureters, which, on leaving the kidney, join the bladder in a normal fashion, one of them necessarily crossing the spinal column in order to reach the opposite side of the bladder The condition must also be differentiated from congenital absence of one kidney (solitary kidney), in which the element of fusion is lacking, the anomaly merely representing failure of the embryonal development of one kidney In these cases there is either a total absence of one kidney, or the kidney and the ureter on one side are represented by some vestigial structure

Both the horseshoe and the solitary kidneys are by far more frequent in occurence Lipshutz and Hoffman,[9] in a collected series of 70,502 necropsies, found 105 horseshoe kidneys, an incidence of one in every 671 bodies According to Judd,[10] of 2,424 renal operations at the Mayo Clinic, seventeen were horseshoe kidneys, one in 142 Eisendrath,[11] in a series of 77,812 necropsies reported by various authors, collected eighty-five instances of solitary kidney, one in every 915 bodies

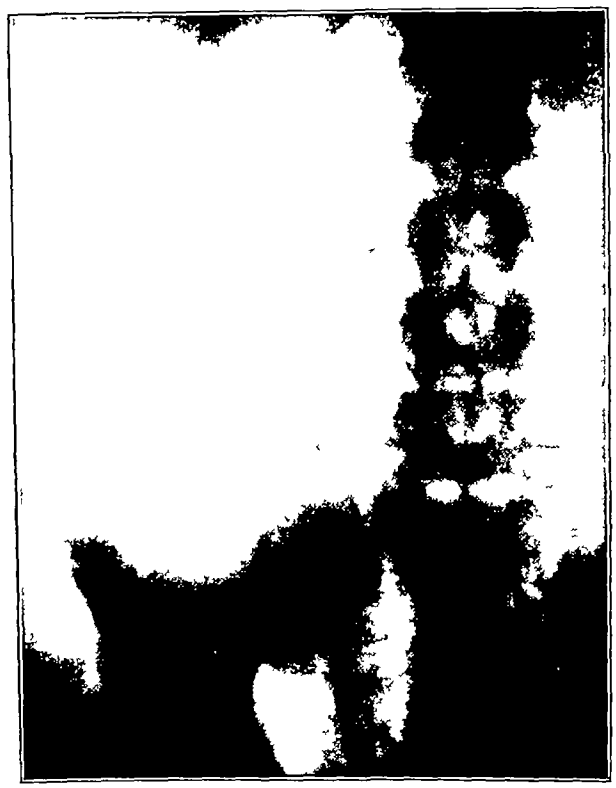


Fig 1 —The right pelvis was injected with the opaque solution the catheter withdrawn for the greater part of its course and more of the solution injected into the ureter The pyelo ureterogram thus obtained shows an abnormally placed irregularly shaped dilated pelvis The upper part of the right ureter is represented by a thin faintly visible streak while below the brim of the pelvis there is a definite dilatation of the ureter The left ureteral catheter after emerging from the left side of the bladder crosses the spinal column and ends by curling on itself along the right side of the third and fourth lumbar vertebrae below and to the left of the right pelvis The lower pole of the fused kidney may be seen to extend 4 cm below the crest of the ileum

In the seven cases in which the anomaly was recognized by pyelography, the predominating symptoms were abdominal pain and, to lesser extent, pressure symptoms, such as constipation A palpable abdominal tumor was present in all but one case The case cited here differed from others in that an anomaly of the external genitalia was present Surgical kidney disease was present in one case (calculous pyonephrosis). Cystoscopy invariably revealed a normal bladder configuration and normally placed ureteral orifices

14 Bailey Percival and Bremer F Endocrinology **5** 761 (Nov) 1921

1 Hunter Double Kidney on One Side of the Body, with None on the Other M Tr London **8** 250 1785

2 Stein A The Clinical Importance of Unilateral Fused Kidney, Am J Obst **73** 449 (March) 1916

3 Stewart and Lodge Unilateral Fused Kidney and Allied Renal Malformations Brit J Surg **11** 27 (July) 1923

4 Morris H cited by Stewart and Lodge (Footnote 3)

5 Colmers Anurie bei Hufeisenniere, Verhandl d deutsch urol Gesellsch, 1911, p 732

6 Stein A Unilateral Fused Kidney, Am. J Obst **68** 48 (July) 1913

7 Bugbee and Losee Congenital Anomalies of the Kidney, Surg Gynec & Obst **28** 97 (Feb) 1919

8 Hyman Unilateral Fused Kidney, J Urol. **7** 321 (April) 1922

9 Lipshutz and Hoffman A Contribution to the Knowledge of Fused Kidneys Ann Surg **68** 39 (July) 1918

10 Judd E S, Braasch W F and Scholl, A J Jr Horseshoe Kidney J A M A **79** 1189 (Oct 7) 1922

11 Eisendrath D N Congenital Solitary Kidney, Ann. Surg **79.** 206 (Feb) 1924

REPORT OF CASE

*Unilateral fused kidney on right side of body, with two separate pelves and two ureters Chronic nephritis involving the left part of the fused kidney with arterial hypertension Hypospadias*

*History*—L L, a man, aged 21, born in Russia, a salesman, referred to me by Dr Louis Greenwald, consulted a surgeon in April, 1923, for pain in the sacral region and in the right lower abdominal quadrant At that time the patient had a slight

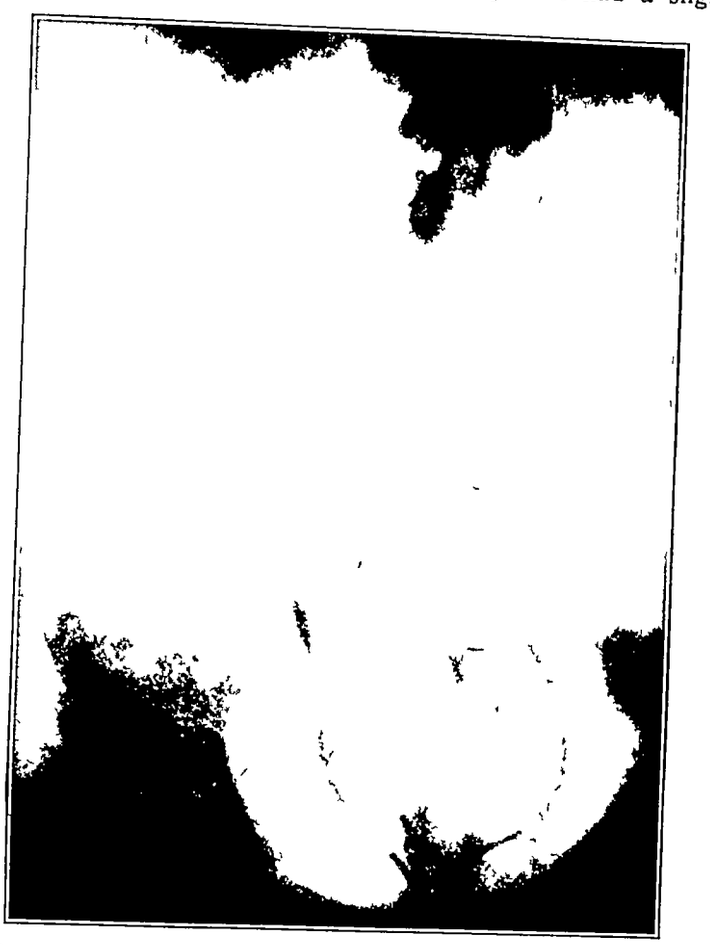


Fig 2—The opaque solution was allowed to drain off the right pelvis and was then injected through the left catheter The left pelvis of the fused kidney is represented by an irregularly oval shadow around the end of the left catheter

right inguinal hernia, which he noticed four years previously after lifting a heavy weight An appendectomy was performed and the hernial sac repaired

Following the operation, the patient began to complain of heaviness in the lower part of the abdomen, throbbing, and four months before I saw him noticed a lump in the right lower quadrant He also had frequent attacks of intense frontal headaches dizziness and general nervousness The bowels were regular and the appetite was good, but the patient complained of insomnia He sought the advice of Dr Greenwald, who thought the tumor to be a dropped kidney in view of the relaxed condition of the abdominal wall This diagnosis was overruled by three eminent surgeons and internists of this city, who were unanimous in the opinion that the condition was some intraperitoneal growth, and a laparatomy was advised The roentgenologist reported both kidneys to be in their normal places (?)

Exploratory laparotomy was performed at St Mark's Hospital, March 13, 1924, at the recommendation of the consultants called in the case No neoplasms were found in the peritoneal cavity Behind the peritoneum, to the right, a large irregular mass was felt When the posterior peritoneum was incised, the mass was identified as kidney It was multilobular, very low in position, and partly fixed to the posterior abdominal wall It could not be pushed upward to the normal position The pelvis of the kidney was not investigated As function on the other side was not known, the kidney was wisely left alone, the posterior peritoneum sutured, and the abdominal cavity closed The patient made a speedy and uneventful recovery, and came under my observation April 17

*Examination*—The patient was robust looking, well nourished and fairly well developed The second aortic sound was accentuated, and there was a hemic murmur at the base of the heart transmitted to the large vessels Two healed scars were present one parallel to the Poupart ligament on the right side, the other, a right rectus incision scar Occupying the greater part of the right side of the abdomen there was an oblong palpable mass, firm, not tender on pressure, slightly movable, and apparently not attached to any of the abdominal viscera The tumor did not extend beyond the median line of the body There was hypospadias The reflexes were normal The blood pressure was 162 systolic and 90 diastolic Blood count revealed 5,500,000 red cells, and 13,000 white cells, with 80 per cent polymorphonuclear leukocytes The hemoglobin was 75 per cent The Wassermann reaction was negative The urine was clear, with a specific gravity of 1 022, it contained a trace of albumin, but no sugar, on microscopic examination, a few hyaline and granular casts were found, but no pus cells and no erythrocytes

The bladder was of normal capacity The mucosa had a normal luster, and no abnormalities of any kind were noted Both ureteral orifices were small, slitlike and normally situated A renal catheter (No 6 Charriere) of the whistle tip variety was introduced into the right ureter and passed up without obstruction An olive tip catheter of the same size passed up into the left ureter also without any apparent obstruction The flow of urine was normal from the right catheter and somewhat rapid from the left The urine obtained from the right side was clear, with a specific gravity of 1 024, it had no albumin and no sugar, urea was 1 4 per cent, microscopically it contained no abnormal constituents The urine obtained

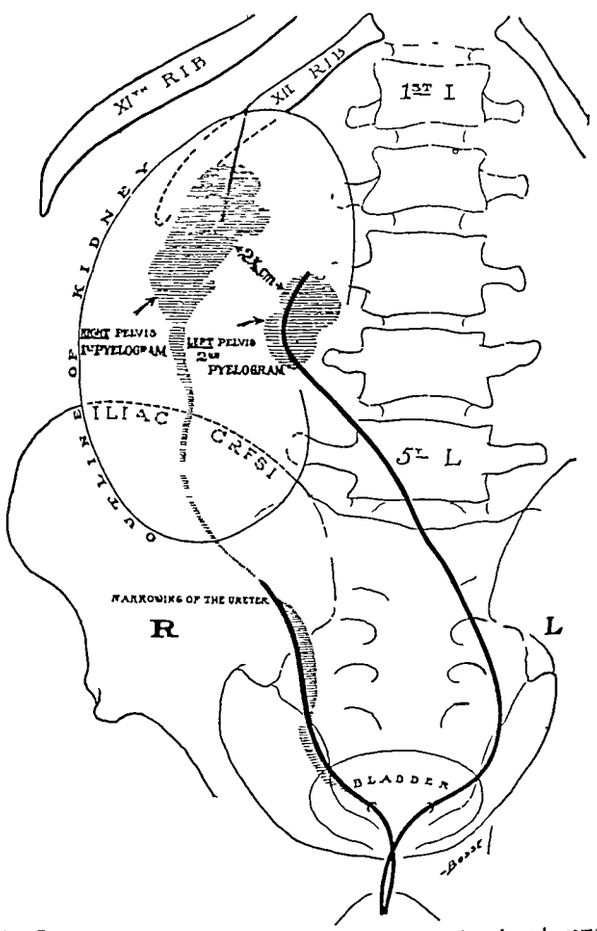



Fig 3—Interpretative reconstruction of the two combined pyelograms

from the left catheter was much paler, had a specific gravity of 1 012 and contained a trace of albumin, the urea was 0 4 per cent, on microscopic examination, a few granular and hyaline casts were found Phenolsulphonephthalein was injected intravenously, and the dye appeared in the urine obtained from the right catheter at the end of three minutes, and on the other side at the end of five minutes No quantitative estimation of the dye elimination was made, as a pyelogram was contemplated which would have interfered with the pro-

cedure It was apparent, however, that the concentration in the right urine was very good and that there was a striking diminution of the dye output from the left side

Thirteen cubic centimeters of a 15 per cent sodium bromid solution was injected through the right catheter until the patient began to complain of slight pain in the right lumbar region The catheter was then partly withdrawn and more of the solution injected into the ureter The plate was taken and the opaque solution allowed to drain off completely The film was developed while the patient was still on the table with both catheters indwelling When the unusual condition revealed itself, it was decided, contrary to my rule of not making double pyelograms at one sitting, to inject the opaque solution through the left catheter Fifteen cubic centimeters was injected, and the patient began to complain of pain in the umbilical region, to the right of the median line

### SUMMARY AND CONCLUSIONS

The pyelograms and the interpretative sketch shown here prove conclusively that we were dealing in this case with a unilateral fused kidney That fusion actually existed could be verified by the previous operative findings, which showed a single large kidney mass Although the fusion was complete, the parts of the kidney drained by two separate ureters excreted urines of entirely different composition and had different functional capacities, and it was evident that the portion of the kidney drained by the left ureter was a seat of chronic nephritis The arterial hypertension was another interesting feature in the case The abnormal position of the ureters was undoubtedly responsible for the interference with kidney drainage, and was a factor in producing dilatation of both pelves Abdominal pain brought about by distending the renal pelvis with solution is a useful diagnostic sign, when felt on the opposite side The case is of clinical significance, because it emphasizes the importance of a thorough urologic investigation in obscure abdominal conditions

307 East Seventeenth Street

## *Clinical Notes, Suggestions, and New Instruments*

### THE KEEN OPERATION FOR CICATRICIAL TRACHEAL STENOSIS

CHEVALIER JACKSON, M D AND W W KEEN M D, PHILADELPHIA

The purpose of this report is to call attention to a unique operation devised by W W Keen for cicatricial tracheal stenosis, which was reported at the time, twenty-five years ago,[1] but which seems to have been buried in the enormous mass of surgical literature The cicatricial stenoses resulting from industrial and war injuries render it of timely importance that attention be called to the procedure

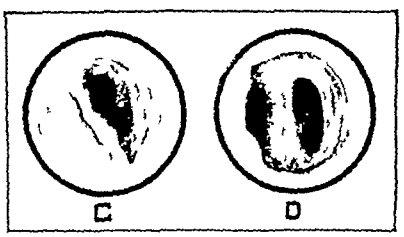
Mrs M, aged 41, was referred to the Bronchoscopic Clinic, Dec 24 1919, by Dr George Fetterolf for the treatment of dyspnea so severe that walking at a slow pace caused weakness, and exertion of any kind was avoided Indrawing at the guttural fossa, around the clavicles, and in the intercostal spaces called for tracheotomy, which, however, we were able to avoid through the prompt relief afforded by peroral tracheal bouginage The patient gave the history of having had an operation performed by Dr W W Keen for tracheal stenosis twenty years previously (March 31, 1899) There was complete relief following the operation until 1911, when increasing dyspnea on exertion developed, and grew much worse stridor developing in the year 1917

1 Jones W S and Keen W W Two Unusual Cases of Surgery of the Trachea Philadelphia M J June 10 1899

#### ORIGINAL REPORT (BY DR KEEN)

Miss E K, aged 21, was referred to me [twenty years ago] by Dr W S Jones of Camden for extreme dyspnea due to a firm stricture of the trachea due apparently to the cicatrization of a suppurative focus of unknown origin The laryngoscopic examination by Dr Jones showed at a short distance below the vocal bands a small, nearly round opening, the diameter of which was about half the distance of the vocal bands from each other After a careful examination, we reached the conclusion that the stenosis was but a little distance below the cricoid and extended over somewhat more than one ring

*Operation by Dr Keen*—March 31, 1899, I made a vertical incision from the middle of the thyroid nearly to the sternum I was extremely careful to see that every bleeding vessel was tied before opening the trachea The patient first took chloroform in the horizontal position As soon as I was ready to open the trachea, I placed her in the Trendelenburg position and then split the trachea longitudinally for about six or seven rings, but found that, to get free access to the stricture, it was necessary to split the cricoid I then placed in the lower part of the incision in the trachea a tracheotomy tube, and




Bronchoscopic views of tracheal stenosis *C* membranous web appearing in the trachea twenty years after Dr Keen's removal by submucous resection of a cicatricial stenosis of the trachea, *D* present condition

connected it with the chloroform inhaler by means of the inner tube of a Hahn tampon-cannula 12 mm in diameter, fastening the tube in place by disinfected tapes The outer sponge-covered portion of the Hahn cannula was not used I then found that the upper border of the stricture was at the third tracheal cartilage, and extended over the third and fourth and to the upper border of the fifth The somewhat puckered appearance of the mucous membrane suggested that it might be the result of a local ulcer, though the history scarcely furnished a sufficient basis for such a belief Finding firm resistance of the submucous tissue, I dissected back the mucous membrane as two flaps upward and downward over all the area covered by the stricture I next dissected out the fibrous tissue By an unfortunate accident, this was lost and so no microscopic examination could be made During this procedure the sides of the trachea were held apart partly by narrow retractors and partly by two silk sutures, which were held by assistants The hemorrhage was not severe, but was troublesome by obscuring the field of operation It was sponged away with small pads of gauze One vessel on the wall between the trachea and the esophagus spurted to such an extent that I tied it with catgut This I afterward removed, and twisted the vessel so as not to have the projection of the knot, which by bulging forward the mucous membrane might interfere with respiration The wall of the esophagus was exposed at one point I next sutured the mucous membrane with silk, but in the middle line I could not bring it quite together A little gap was left there to granulate The chloroform tube was now removed, and the trachea, which had been already partially sutured was completely closed by catgut stitches passing through the perichondrium and pretracheal tissues The skin was then closed with silkworm-gut

The whole operation required about an hour and twenty minutes The patient's temperature on the afternoon of the operation rose to 100 4 After that it was never above 100 and by the second day had reached 99 The external sutures were removed a week after the operation, primary union having taken place without untoward result Laryngoscopic examination May 23 1899 two months after operation showed slight

redness of the vocal cords The tracheal stricture showed no tendency to return Her voice and breathing were normal

The method adopted in attacking this possibly unique case (for we have not found any similar one recorded) was most satisfactory The easy access to the stricture, the dissection of the mucous membrane from the surface of the stricture, and its replacement and suture, the avoidance of any tracheotomy (i e, the wearing of a cannula), the advantages of the Trendelenburg posture, and the primary union obtained, are the points on which we laid the most stress

### SUBSEQUENT HISTORY (BY DR JACKSON)

Roentgen-ray examination Jan 12, 1920 (twenty-one years after the cure of the original stenosis), by Dr H K Pancoast revealed, on lateral view, the constriction in the trachea a little less than 1 inch below the level of the cricoid cartilage The defect seemed to be mainly anterior, and was about on a level with the lower border of the sixth cervical vertebra The anteroposterior view at this level showed some constriction laterally but not to any great extent One would therefore suppose that the main part of the defect was in the anterior wall

In consultation with Dr Keen and Dr Fetterolf, it was decided to do a diagnostic bronchoscopy to determine whether or not malignant or such extensive cicatricial conditions existed as would require repetition of the external operation

January 22, inspection of the trachea through the bronchoscope under local anesthesia revealed a membranous web on the anterior wall of the trachea at the level of the fourth ring The tracheal lumen was narrowed to an elliptical opening 2 mm by 7 mm in size, as shown in the accompanying illustration There were no signs of neoplasm or of active inflammatory lesions Jackson's silk-woven steel-stemmed endoscopic bougies up to size 18 French were passed through the strictured area The time consumed was four minutes, ten seconds Considerable increase in dyspnea followed the procedure, necessitating close watching of the patient Tracheotomy, however, did not become necessary At the end of one week the breathing was considerably improved It was then decided that there was no recurrence of the extensive original condition, and that perhaps a few simple endoscopic dilations of the stenosis would restore the patient to the previous very satisfactory postoperative condition

At intervals of about a week, for eight weeks, increasing sizes of the endoscopic bougies were inserted, without anesthesia, general or local The time required for each treatment varied from fifty-two seconds to two minutes, twenty-three seconds, the patient returning to her home each day, except in the first instance After the eighth endoscopic bouginage, she was entirely free from dyspnea even on ordinary exertion The bronchoscope showed the entire disappearance of the web noted at the first inspection

A second roentgenographic examination was made, May 10, 1920, by Dr H K Pancoast who reported that the constriction had almost entirely disappeared

### COMMENT (BY DR JACKSON)

The recurrence of dyspnea, after thirteen years of complete relief afforded by the ingenious and very successful submucous resection of the tracheal stenosis by Dr Keen, was evidently due to gradual contraction of submucosal cicatricial tissue, which drew a weblike structure across the tracheal lumen The prompt yielding of this weblike stenosis to the simple method of peroral endoscopic bouginage indicates clearly that the secondary stenosis was of such a relatively less vertical extent as not truly to warrant the term "recurrence" The value of the steel-shanked, silk-woven endoscopic bougies, in the treatment of this mild type of tracheal stenosis of limited extent, is well exemplified The comparative ease with which the peroral endoscopic treatment is applied without even local anesthesia after the first few treatments is also well demonstrated It could have been dispensed with even in the first treatment, had it been desirable to do so In working with children by this method for either diagnosis or treatment of laryngeal or tracheal stenosis, no anesthetic, general or local, is ever used at the Bronchoscopic Clinic It is evident that the peroral endoscopic bouginage would not have sufficed to cure the original stenosis, nor do I know of any other method that could accomplish what was done in this case by the unique operation devised by Dr Keen

The patient seems now, three years after the last dilation, perfectly well It was deemed advisable to inspect the trachea and, if necessary, to pass the No 30 bougie occasionally to prevent return of the contraction, but this has not yet been, and may never be, necessary Contraction of cicatricial tissue seems to obey no law as to when it will cease

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## BILATERAL CANCER OF THE BREAST IN THE FEMALE FOLLOWING PROLONGED IRRITATION*

ROBERT B McGRAW, M D, AND RUPERT SCHRANKEL, M D,
NEW YORK

An unmarried woman, aged 41, was admitted to the Second Medical Service at Bellevue Hospital, under Dr Eugene Du Bois, Aug 9, 1923, complaining of stabbing pains of four months' duration in the sacrum, the pains radiated to the right leg and to the amputation stump of the left leg The patient stated that, at the age of 8, the left leg had been amputated at the midthigh, because of injury Immediately after operation, she wore a crutch on the left side and has continued to do so ever since At 23, pain in the right kidney region and urinary symptoms led to an exploratory operation, which disclosed a tuberculous kidney, and a nephrectomy was done Just before this, the patient had fallen and fractured the right patella This was repaired, by open operation, at the same time that the nephrectomy was done After this operation, she used two crutches and has continued to do so ever since, walking with them held tight to the body, so that the breasts became compressed toward the midline About three months before admission, the patient noticed that both breasts were growing smaller, the left more rapidly than the right, and that there was a small, hard lump, about the size of a marble, in the upper and inner quadrant of the right breast The lower half of the left breast had become shriveled,

Appearance of breasts in case of carcinoma following prolonged irritation

and showed a small, reddened area which, in a few days, ulcerated and discharged small amounts of clear, yellow fluid, occasionally blood streaked The breasts were never painful, but grew progressively smaller up to the time of admission to the hospital

Physical examination revealed that both breasts were small and atrophic The right breast showed a stony hard mass, irregular in outline, about the size of a hen's egg, in the upper and inner quadrant The nipple was retracted, but there was no discharge The mass appeared to lie just beneath the skin, which was brownish and hard over it, and to which it was attached It was also fixed to the underlying structures, and was somewhat painful when moved over them The right axillary nodes were enlarged and firm In the lower and inner quadrant of the left breast there was a large mass of

* From the Second Medical Service of Bellevue Hospital

similar type The skin over it was hard, red and drawn into folds The surface of the mass was ulcerated, the ulcer involving the nipple, which was retracted There was a clear yellow, foul smelling discharge The left axillary nodes were palpable

A section of tissue removed from the left breast was submitted to Dr Douglas Symmers for microscopic examination, he rendered a report of carcinoma

The case is interesting chiefly from the standpoint of a history of long continued irritation, caused by the use of crutches, which the patient had used on one side for thirty-five years and on the other for twenty years It is in accord with the irritation theory in the production of carcinomas, such as those developing from chronic irritation in chimney-sweeps paraffin workers, natives who chew betel nuts and clay-pipe smokers

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## A CASE OF ENORMOUS PIGMENTED MOLE*

D T QUIGLEY M D, OMAHA

The patient, referred by Dr Sol Ravitz of Omaha, is a man, aged 24, of good physique, mentally sound and in every way a normal person He lives and works on a farm and has no trouble from his deformity except that in hot weather the

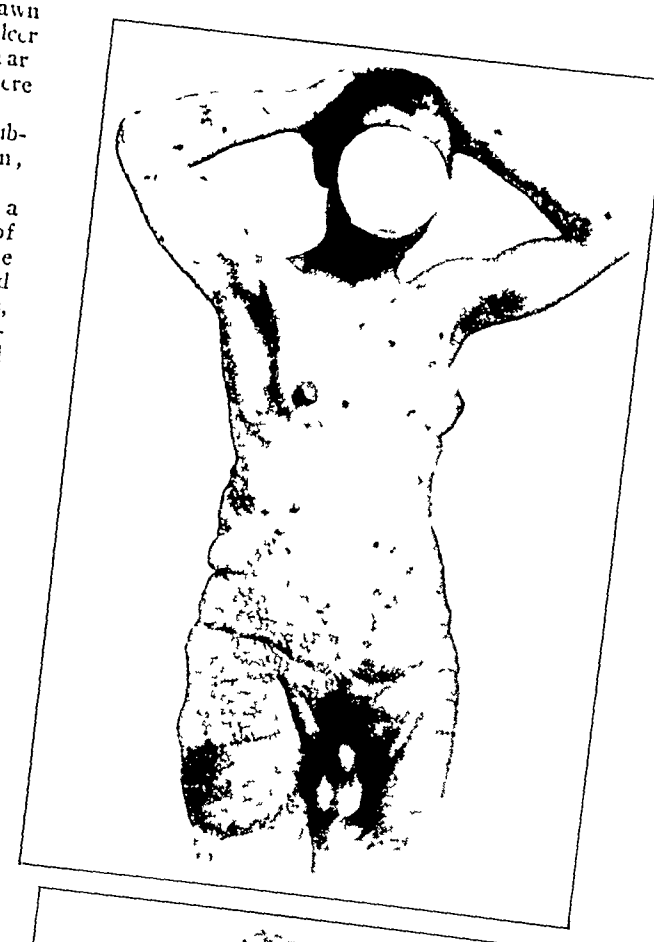
Patient bending forward showing fissures

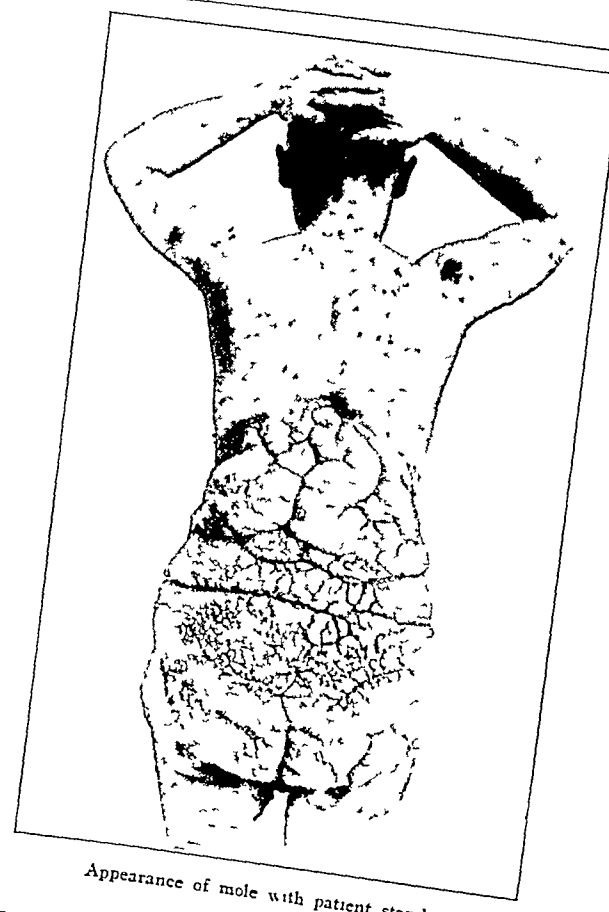
sweat gathers in the deep fissures of the mole and causes local irritation

The gross appearance is that of ordinary pigmented mole except that in the heavier, thicker areas the pigment is lighter, and in the thinner areas near the edge and in the smaller islands the pigment is much deeper, all the smaller spots and all the margins being completely black The lighter and darker shades of brown prevail in the main mass Hair is present in all the small spots and around the edges of the main mass The genital organs are normal, but the breasts are enlarged and resemble those of a girl

There has been no relative increase in size since birth

A good description of the nature of these moles has been given by Ormsby[1] A bibliography is given by him and by Fox Ormsby presents an illustration of a similar lesion covering the patient's whole hip In the patient shown by Fox the area covered was quite as extensive as in this case, but the skin was not thickened In my case there is great





Appearance of mole with patient standing

thickness of the skin, extending over the whole pigmented area the thickness in some places being as much as 4 inches (10 cm)

The parents and three brothers uncles aunts and cousins are normal

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*From the department of surgery University of Nebraska College of Medicine

1 Ormsby O S A Practical Treatise on Diseases of the Skin Philadelphia Lea & Febiger 1921

2 Fox Howard A Case of Extensive Pigmented and Hairy Nevus J A M A 58 1190 (April 20) 1912.

## DOUBLE UTERUS

JOHN J CATLIN, M D, BUFFALO, MINN

Double uterus is a rather rare condition, but unless the possibility of such an abnormality is borne in mind, there is a chance that its occurrence will lead to mistake or difficulty in diagnosis, when with a normal organ there would be no difficulty From recent literature, I have been able to find less than 150 reported cases There are no doubt many more that have never been reported, and I can readily see how numerous others could exist without ever having been discovered

Specimen of double uterus taken at postmortem, Feb 16, 1924, at Catlin Hospital, Buffalo, Minn The cervix of the left side uterus came into view through a speculum The partition forming part of the double vagina may be seen in the lower part of the illustration The right cervix is above, it had no protruding cervix, but appeared on examination with a speculum as an opening to the right side of the normal cervix and about 1 inch higher up The right side of the vagina was incomplete or had been partially destroyed by operation when the patient was 11 and again at 17, when what was thought to be an abscess was drained The outlines of a complete imperforate vagina could be made out, with a large rent through the middle

The condition is due to a lack of proper fusion, or to a lack of absorption of the fused walls of the ducts of Mueller, which normally unite to form vagina, uterus and tubes, at about the seventh or eighth week of uterine life All degrees of malformation may occur, from a simple bicornate uterus to a complete double uterus, with two uterine canals, two cervices and two vaginas

The accompanying illustration shows a complete double uterus, or uterus didelphys The specimen was secured from a woman who died of septicemia, following an abortion at about the fifth week

### REPORT OF CASE

Mrs W B, a housewife, aged 35, who weighed 135 pounds (61 kg), had been married at 17, she was the mother of four healthy children, the youngest being 6 years old The menstrual life began at 11, and had been normal except for the two occasions mentioned here

While she was carrying her children, menstruation ceased entirely, except for a small showing on two occasions during one of the periods of pregnancy

At 11, and again at 17, an abscess was opened through the vagina, toward the right of the cervix, which, from the history and the appearance of the remnant of the vaginal partition, was caused by an imperforate right vagina The true condition of the uterus was not discovered until the patient's last sickness, and after she was seriously ill with general sepsis, which followed an abortion nearly two weeks before

## A CASE OF CONGENITAL BILATERAL VENTRAL HERNIA

CARL G LEO WOLF, M D, NIAGARA FALLS, N Y

Recently, I had a chance through the courtesy of Dr George P Eddy of this city to examine a case of a condition that seems to be rather rare, judging from the few cases I have been able to find in the literature accessible to me

An Italian boy, aged 1 year and 9 months, had never been seriously ill He had had coryza at the age of ten months, and presented evidences, such as the square head and Harrison's groove, of rickets In the recumbent position, he presented a flattened abdomen with only very slight bulging in both flanks (Fig 1) When he was sitting up or standing, especially when crying, there was considerable bulging of both flanks (Figs 2 and 3)

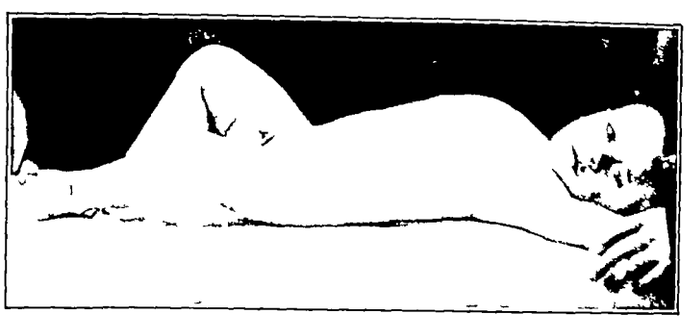

Fig 1—Flattened abdomen, in recumbent position

Examination showed that the external and internal oblique as well as the transversalis were entirely missing on both sides, the rectus abdominis and the latissimus dorsi on both sides were normal, and well developed for the age of the child The examining hand could readily feel the abdominal organs, as the abdominal wall in these regions appeared to consist only of skin, subcutaneous fat and peritoneum The urinary bladder and the ureters seemed not to be enlarged, as they were in some of the few cases reported, the testes, however, were undescended

The boy was otherwise well, to all appearances, and did not seem to suffer any discomfort, he ran around and played like any normal child of his age, and he refused to wear a supporter

Fig 2—Bulging of flanks when child sits

Fig 3—Bulging of flanks in standing position

The only similar cases I have been able to find in the literature are as follows

Wyss [1] partial defect of the external an internal oblique and the transversalis abdominis in a child, aged 10 months

1 Wyss Beitr z Chir, Festschr f Billroth, Stuttgart, F Enke, 1892

Steinhardt [2] absence of the right external and internal oblique and the transversalis abdominis in a child aged 3 weeks

Osler [3] congenital absence of the abdominal muscles with distended and hypertrophied urinary bladder in a boy aged 6 years

Parker [4] congenital absence of external and internal oblique and transversalis abdominis in a new-born infant, weighing 5½ pounds (2.5 kg.) There was also enormous hypertrophy of the bladder

Smith [5] congenital absence of abdominal muscles, and other defects, in an infant The bladder was situated abnormally high, but no marked abnormalities could be found in the urinary organs

Bolton [6] congenital absence of the lateral abdominal muscles, with enlargement of the bladder and ureters in a boy aged 3 weeks

108 Buffalo Avenue

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## RETROPERITONEAL LYMPHOCYTOMA CAUSING CHYLOUS ASCITES AND CHYLOTHORAX

BRADLEY L. COLEY, M.D., NEW YORK

The comparative rarity of true lymphocytoma is generally recognized. The case that came under my care was characterized by such unusual symptoms and presented such peculiar features that it seems justifiable to report it in full.

*History.*—L. D., a married woman, aged 48, had always lived on Long Island, and had been in perfect health until the onset of the present illness.

Two years before I saw her, she began to feel weakness and discomfort in the abdomen, which she attributed to an umbilical hernia which, she states, had been present fifteen years. During this time, the abdomen had been large and pendulous. Associated with the feeling of discomfort she had noticed dyspnea for the past eight months. There was a slight, intermittent, dull pain in the left upper quadrant. Her appetite, which had hitherto been excellent, began to fail, and there was some loss of weight. There were no other digestive symptoms except gaseous eructations, which came on after eating. There were no symptoms referable to the genito-urinary system. The family history was negative for malignant disease. The patient remembered no previous illness. She had always been in excellent health. She had not had any surgical operations.

The bowels had always been constipated until six months before, since which time the bowels had moved daily. The stools were apparently normal. Nocturia occurred once or twice. The patient felt full after a small meal. The appetite seemed to be failing. She did not sleep well. Six months before she weighed 220 pounds (100 kg.), four months before 175 pounds (80 kg.), she had lost weight since, the amount was not known.

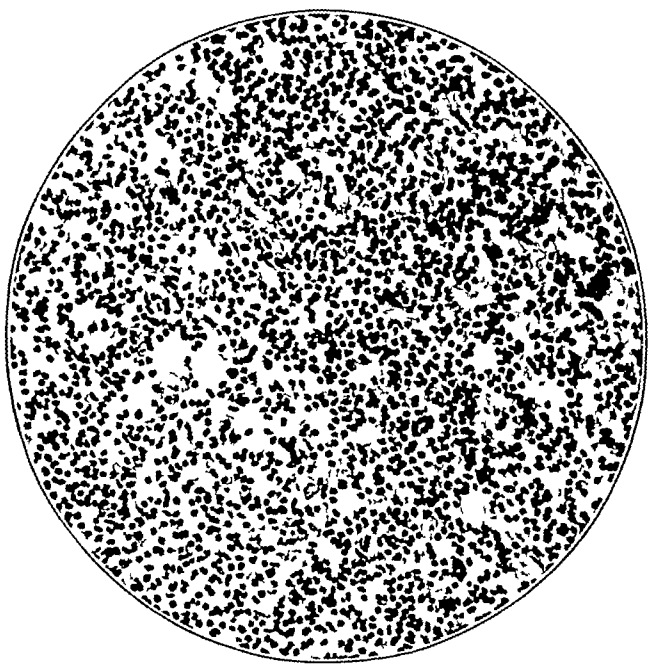
The menses had been regular until one year before, when the interval began to be prolonged from two to four months. There had been complete cessation for the last six months. Presumably the patient was approaching the climacteric at the time of onset of the present illness. She had been married twenty-seven years and had five children, four of whom were living and well. There had been no miscarriages.

Aug. 27, 1922, the patient consulted the family physician. He advised gastro-intestinal roentgen-ray examination, which was done with inconclusive findings. The patient was then advised to enter a hospital for observation and was admitted to St. John's Hospital, Brooklyn, September 2, under the care of Dr. George F. Sammis.

The abdomen was not distended, rigid or tender, there was a fair amount of abdominal fat. Percussion over the left iliac region revealed definite dulness and resistance and the outline of a mass that had a wave of fluctuation as of fluid. There was an umbilical hernia the size of a lemon. Percussion over the liver revealed slight increase of dulness. The extremities were normal.

A few days later an exploratory laparotomy was performed by Dr. Sammis who found a thin, creamy fluid in the abdominal cavity. A large mass, fairly smooth, apparently involved the posterior peritoneum, the entire mesentery of the upper abdomen, and extended into the left pelvis. The uterus and the right ovary seemed to be normal. The tumor was studded with petechial hemorrhages. The omentum was ligated and the hernial sac removed. The wound was closed in layers, one rubber tissue drain was inserted. Not any of the mass was removed, because of its extensive involvement of the entire mesentery, the possibility of aggravating the condition, should it be malignant, and the impossibility of its removal, because of interference with the blood supply of the intestine.

*Examination.*—I saw the patient about four weeks after her uneventful convalescence. At this time she was suffering from severe dyspnea and orthopnea. She was well developed and well nourished and evidently was chronically ill. The principal findings were signs of fluid at the right base extending posteriorly up as far as the scapular spine, i. e., dulness approaching flatness, loss of fremitus and distant voice sounds, the breath sounds being absent. The abdomen was rotund, not markedly distended, and presented a linear midline scar extending for a distance of 5 inches, its midpoint being the center of a line from the pubic symphysis to the ensiform cartilage. The umbilicus was absent. To the left of the incisional scar, an ovoid mass about 9 cm. in diameter, movable, firm but not stony hard, was indistinctly felt. The mass could be slightly shifted. Percussion over it gave a dull tympany. Palpation did not elicit tenderness. There was a slight shifting dulness, and a fluid wave was elicited. There were no engorgements of the superficial veins, no swelling of the extremities and no glandular enlargements.



Section from retroperitoneal tumor showing typical histologic features of lymphocytoma.

*Treatment and Course.*—The following day, by thoracentesis 5 pints of fluid of a milky character was withdrawn. This fluid was examined by Dr. Ewing and pronounced true chylous fluid. Following the aspiration, the patient experienced relief from the distressing respiratory symptoms. However, a gradual progressive enlargement of the abdomen followed which necessitated aspiration ten days after the chest aspiration at which time 6½ quarts of fluid was withdrawn the nature of which was identical with that obtained from the right chest. Reaccumulation of fluid in the abdomen necessitated tappings at frequent intervals during the next thirteen months. The intervals at first varied from seven to ten days

2 Steinhardt. Jahrb. f. Kinderh. **56**: 220.
3 Osler, William. Bull. Johns Hopkins Hosp. **12**: 331, 1901.
4 Parker, R. W. Tr. Clin. Soc. London **22**: 189; quoted by Osler.
5 Smith, E. B. Proc. Roy. Soc. Med. Lond. **6**: 186, 1912-1913.
6 Bolton, C. Tr. Clin. Soc. London **38**: 247, 1904-1905.

There was a long period in which tappings were unnecessary, from March 9 to June 29, 1923 Edema of the lower extremities was never present

March 6, 1922, there were signs of fluid in the right chest, and a second right thoracentesis was performed, yielding 1¼ quarts of milky fluid March 19, 2 quarts was removed from the left chest From October, 1922, to November, 1923, I performed abdominal paracentesis thirty-five times, a total of 251 quarts being removed Thoracentesis was resorted to three times, with a total of 6¼ quarts

Five weeks after the first aspiration, the patient was removed to the Memorial Hospital, where an exposure of 16,000 millicurie hours of radium at 10 cm distance was given with the pack placed directly over the abdominal mass This treatment resulted in a marked decrease in the size of the mass as made out by palpation, though the rate of the accumulation of fluid was not lessened Six weeks later, a second radium pack treatment was given in the same manner, with a dosage of 18,000 millicurie hours at the same distance Following this treatment, the abdominal mass diminished in size

Two months later, the accumulation of fluid suddenly diminished, and for fifteen weeks no tappings were needed Coincident with the cessation of reaccumulation of the fluid there was a marked improvement in the general condition, strength returned, and the patient was up and about and doing light housework

The third radium treatment was given in the same manner, May 8, 1923, the dose being 18,000 millicurie hours

Seven weeks after the third treatment, the abdomen began to swell very gradually, until June 29, 1923, when aspirations were begun again No further radium treatments were given, and the patient's general condition continued satisfactory despite repeated tappings, until September 1, when she began to fail and grew progressively weaker with loss of appetite and severe pain in the abdomen associated with severe "dragging down" feeling She died, December 5

*Postmortem Findings*.—Examination, limited to the abdomen, was performed six hours after death There was about 4 quarts of greenish, opaque, milky fluid free in the peritoneal cavity The peritoneum was greatly thickened A firm, cordlike adhesion attached a loop of ileum to the lower right anterior parietal peritoneum The transverse colon and most of the jejunum was involved in a meshwork of adhesions, some fibrinous and velamentous, others firm and fibrous The pelvic organs were normal The liver was not greatly enlarged, and seemed normal save for extensive cloaking in adhesions The stomach, duodenum and spleen and kidneys seemed normal

A fleshy tumor mass occupied the posterior portion of the abdominal cavity, which was retroperitoneal and extended from the brim of the pelvis upward, apparently fading out at the level of the attachment of the diaphragm It extended somewhat farther on the left side than on the right, and completely invested the aorta and vena cava The thoracic duct was not definitely identified, but was necessarily involved The mass was reddish, homogeneous and firm There were no hemorrhages into its substance, and it was not densely hard or nodular At several points in the adjacent retroperitoneal space, small, ovoid, yellow, encapsulated bodies were seen They shelled out readily, and seemed like inspissated fat There was a similar ovoid (discoid) tumor mass, approximately 8 by 10 cm in diameter and 4 cm in thickness, growing between the leaves of the mesentery of a loop of high ileum The mass resembled closely the retroperitoneal tumor, but was not directly contiguous It was removed for a specimen One of the yellow bodies mentioned above was removed from the under surface of the right lobe of the liver

Microscopic examination by Dr James Ewing revealed that the tumor was composed of a diffuse growth of small lymphocytes These grew diffusely, infiltrating all tissue actively, and without any inflammatory or fibrous reaction There was little tendency to necrosis The walls of the blood vessels were infiltrated The process was a true lymphocytoma It fell in the group of true pseudoleukemia, except that the process was locally aggresive and malignant It was a true tumor of lymphocytes

114 East Fifty-Fourth Street

## AN UNUSUAL CASE OF OSTEOMYELITIS OF THE CLAVICLE

NATHANIEL BERCOVITZ, M D, AND J S CHU, M D,
KIACHEK, HAINAN, CHINA

K L S, a Chinese, aged 19, married, entered the hospital Dec 20, 1923, with extensive ulceration over the right clavicle, with both ends of the clavicle exposed, being held in place by a bridge composed of skin and connective tissue, as shown in Figure 1

The family and past history were unimportant except that the patient had smallpox and measles when a child, with frequent attacks of malaria He had had occasional conjunctivitis, but no bone or joint pains There was no history of venereal infection

Fig 1.—Posterior surface of clavicle

The present condition dated back about ten months, at which time the patient awoke, one morning, with a dull ache over the right clavicle At first there was no redness or swelling, but gradually the pain became worse until he could not move the shoulder or the arm or fingers Within a day or two the region over the clavicle began to swell The attack was accompanied by high fever A few days after the attack began the patient had a sore throat (*tonsillitis?*), but this passed away after a few days

As the pain became more intense, a Chinese external plaster was applied without improvement A few days later a Chinese doctor punctured the swollen part, and considerable pus escaped Soon afterward the pain and swelling subsided, but ulceration began at the site of the puncture, and extended in each direction along the length of the clavicle, till both ends of the bone were exposed Only a small strip of skin at the center held the bone in place

The patient was well developed and well nourished, and gave negative physical findings except for the area of ulceration over the right clavicle, and the exposed ends of the bone

The biceps, triceps and wrist reflexes on the right side were slightly exaggerated Laboratory findings were negative except for the usual presence of ascarids and hookworm in the feces A Wassermann test was not made

Fig 2.—Appearance of patient, arrows point to exposed ends of clavicle

At operation, slight traction caused removal of the entire right clavicle Within the ten months since the beginning of the disease a new clavicle had formed, very thick and in good position, the function of the arm being normal Two weeks after operation, the ulcerations were greatly improved

In our experience, this is a very unusual location for osteomyelitis, and osteomyelitis is one of the commonest diseases of Hainan

Little reference literature is available in this part of China, but from what has been seen it would seem that this is a rare condition

Christ Hospital

# PROCEEDINGS OF THE CHICAGO SESSION

## MINUTES OF THE SEVENTY FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT CHICAGO, JUNE 9 13, 1924

*(Concluded from page 1973)*

## *HOUSE OF DELEGATES*

### *Third Meeting—Thursday Afternoon, June 12*

The meeting was called to order at 2 o'clock by the Speaker

Dr J D Brook, Michigan, presented the final report of the Committee on Credentials and announced that 139 Delegates had had credentials approved and accepted, and moved that the list of delegates presented by the committee constitute the roll The motion was carried

The Secretary called the roll and announced a quorum present

On motion of Dr A T McCormack, Kentucky, seconded and carried, the reading of the minutes of the session of Tuesday, June 10, was dispensed with

#### Election of Officers

Nominations for President-Elect were declared by the Speaker to be in order The nominees were

Dr Rudolph Matas, Louisiana, nominated by Dr W H Seemann, Louisiana, Dr W D Haggard, Tennessee, nominated by Dr J A Witherspoon, Tennessee, Dr W S Thayer, Maryland, nominated by Dr A D Dunn Nebraska, Dr Seale Harris, Alabama, nominated by Dr S W Welch, Alabama

The chairman of the Committee on Credentials announced that Dr S W Johnston, delegate from Mississippi, had been in attendance throughout the session, but, because of a misunderstanding of conditions of registration, had failed to have his credentials properly approved This had been done and Dr Brook, chairman of the Committee on Credentials, moved that Dr Johnston be seated as a delegate This motion was seconded and carried

The Speaker appointed as tellers Dr A E Bulson, Indiana, Dr Donald Macrae, Iowa, and Dr S P Mengel, Pennsylvania

There were 131 votes cast for President-Elect, of which Dr Haggard received 80, Dr Harris, 26, Dr Matas, 17, and Dr Thayer, 8 The Speaker declared that Dr Haggard had received a majority of the votes cast, and on motion of Dr A W Hornbogen, Michigan, Dr W D Haggard was declared unanimously elected President-Elect

For Vice President, Dr E B McDaniel, Portland, Ore, was nominated by Dr Joseph A Pettit, Oregon On motion of Dr C J Whalen, Illinois, seconded and carried nominations were closed and the unanimous vote of the House was cast by the Secretary for Dr McDaniel, and he was declared elected Vice President

Nominations for Secretary were called for, and Dr Olin West was nominated by Dr J A Witherspoon, Tennessee On motion of Dr A E Bulson, Indiana, seconded and carried, the unanimous ballot of the House was cast by the Speaker for Dr West, and he was declared elected Secretary

Dr Austin A Hayden, Chicago, was nominated for Treasurer by Dr Wendell C Phillips, chairman of the Board of Trustees On motion of Dr O S Wightman, New York, seconded and carried, the Secretary cast the vote of the House for Dr Hayden, and he was declared elected Treasurer

For Speaker of the House, Dr Frederick C Warnshuis, Michigan, was nominated by Dr L J Hirschman, Section on Gastro-Enterology and Proctology On motion of Dr Irvin Abell, Kentucky, the nominations were closed and the unanimous vote of the House was cast by the Secretary for Dr Warnshuis, and he was declared elected by the Vice Speaker in the Chair

For Vice Speaker, Dr H M Brown, Wisconsin, nominated Dr Rock Sleyster, Wisconsin, whose election was declared after the Secretary had cast the vote of the House, on motion of Dr A E Bulson, Indiana

The President-Elect, Dr W D Haggard, was escorted to the platform, introduced by the Speaker, and addressed the House

Dr E B McDaniel, the newly elected Vice President, was presented to the House

Nominations for trustee for the term of four years were Dr J H Walsh, Illinois, and Dr Ludvig Hektoen, Illinois, nominated by Drs C E Humiston, Illinois, and Dr D J Davis, Section on Pathology and Physiology, respectively Dr Frank Billings was nominated by Dr A T McCormack, Kentucky, but declined the nomination

Dr J H Walsh received a majority of the votes cast, and his election was made unanimous on motion of Dr Davis, seconded and carried

Mrs S C Red, President of the Woman's Auxiliary of the American Medical Association, addressed the House of Delegates

For Trustee for the three-year term to succeed Dr Phillips, Dr Wendell C Phillips was nominated by Dr O S Wightman, New York, but withdrew his name, Dr Edward B Heckel, Pennsylvania, was nominated by Dr W F Donaldson, Pennsylvania, Dr Philip Marvel, Atlantic City, N J, was nominated by Dr John D McLean Pennsylvania On the ballot, Dr Heckel received a majority of the votes cast, and the election was made unanimous by motion of Dr E Eliot Harris, New York, seconded and carried

The retiring President, Dr Ray Lyman Wilbur addressed the House

For Trustee for the three-year term to succeed Dr Thomas McDavitt, Dr McDavitt was reelected by unanimous vote of the House, his name having been proposed by Dr J L Rothrock Minnesota

The President, Dr W A Pusey, nominated Dr M L Harris, Chicago, to succeed himself as a member of the Judicial Council, Dr M W Ireland, U S Army, to succeed himself as a member of the Council on Medical Education and Hospitals, and Dr F P Gengenbach, Denver, to succeed himself as a member of the Council on Scientific Assembly The nominations were confirmed on motion of Dr A T McCormack, Kentucky, regularly seconded and carried

The President, Dr W A Pusey, submitted a proposed amendment to Article VI, Section 1, of the Constitution, adding 'President-Elect" to the list of general officers, which was referred by the Speaker to the Board of Trustees

The secretary read lists of nominations for Affiliate and Associate Fellows, which were confirmed by the House, on motions regularly made, seconded and carried

#### Place of 1925 Annual Session

Dr Wendell C Phillips, chairman of the Board of Trustees, reported invitations from three cities for the next Annual Session—St Paul, Atlanta and Atlantic City, and referred the matter to the House for its preference

The result of the balloting gave Atlanta 21 votes, Atlantic City 70 votes, and St Paul 20 votes

Dr Frank Billings, retiring Trustee, was called for by the House of Delegates and addressed the House

The Speaker called for reports of Reference Committees and for supplementary reports

### Supplementary Report of Board of Trustees

A supplementary report of the Board of Trustees was submitted by the chairman of the Board, Dr Wendell C Phillips, as follows

The Board of Trustees reports to the House of Delegates that, by unanimous action, the following resolution has been passed

That when Dr George H Simmons retires as Editor and General Manager Dr Olin West will become Acting General Manager, Dr Morris Fishbein, Acting Editor of THE JOURNAL, and Mr Will C Braun, Acting Business Manager—all to serve until the next annual meeting of the Board on the first Friday of February, 1925

Further, it is recommended to the House of Delegates of the American Medical Association by the Board of Trustees that a narcotic survey of the United States be made through the agency of the U S Public Health Service, and that until such time as the above-mentioned survey shall have been made, the House of Delegates look with disfavor on the publication at governmental expense and for general circulation, of a pamphlet on narcotic addiction based on uncertain statements and unproved data

The Board of Trustees has adopted the resolution presented by Dr George F Keiper, Indiana, which was referred to the Board for action, requesting reciprocal relationship between the American Medical Association and the Canadian Medical Association for interchange of official delegates at annual meetings, and Dr Olin West was selected as the first official delegate from the American Medical Association to the Canadian Medical Association

The report of the Board of Trustees was adopted

### Report of Committee on Rules and Order of Business

Dr H P Linsz, West Virginia, chairman of the Committee on Rules and Order of Business, made the following report, which was adopted

Your Committee on Rules and Order of Business took up the communication from Theodore Hough, dean of the University of Virginia, submitted by Dr Southgate Leigh relative to the annual session dates of the American Medical Association conflicting with commencement exercises of medical colleges in general, thereby preventing the attendance of their teachers at such session Your committee respectfully recommends to the Board of Trustees that this condition be remedied as far as feasible

Your committee also urges that the date of the next annual session of the American Medical Association be set by the Board of Trustees within sixty days following the closing date of each annual session, in order that the state associations may arrange for their next annual meetings by September 1, following

HENRI P LINSZ, West Virginia, Chairman
F T KIDDER, Vermont
E A HINES, South Carolina
E A PRAY, North Dakota
W P EAGLETON, New Jersey

### Report of Reference Committee on Medical Education

The chairman of the Committee on Medical Education, Dr F B Lund, Massachusetts, submitted the following report, which was adopted by the House

Your committee, to which has been referred the communication of Dr Franklin Martin regarding the Gorgas Memorial, would recommend the passage of the following resolution

*Resolved*, That the House of Delegates of the American Medical Association, convinced of the great promise which the Gorgas Memorial contains of benefit to humanity through improved knowledge of preventive medicine and tropical disease, and of its peculiar adequacy as a tribute to our great leader and sanitarian, recommend to the organized profession of the country, through its constituent state and county societies, the enthusiastic support of the project

J A WITHERSPOON, Tennessee
JOSEPH RILUS EASTMAN, Indiana
THOMAS CULLEN, Maryland
W H MAYER, Pennsylvania
F B LUND, Massachusetts, Chairman

### Report of Committee on Reapportionment of Delegates

The report of the Committee on Reapportionment of Delegates was presented by the Secretary, as follows, and was adopted

The provisions of the Constitution and By-Laws of the Association concerning reapportionment of Delegates are as follows

#### CHAPTER I, SECTION 3, OF BY-LAWS

APPORTIONMENT OF DELEGATES.—At the annual session of 1903, and every third year thereafter, the House of Delegates shall appoint a committee of five on reapportionment, of which the Speaker and the Secretary shall be members The committee shall apportion the delegates among the constituent associations in accordance with Article 5, Section 3, of the Constitution, and in proportion to the membership of each constituent association as recorded in the office of the Secretary of the American Medical Association on April 1 of the year in which the apportionment is made This apportionment shall take effect at the next succeeding annual session, and shall prevail until the next triennial apportionment whether the membership of the constituent association shall increase or decrease

#### ARTICLE 5, SECTION 3, OF CONSTITUTION

The total voting membership of the House of Delegates shall not exceed 150 The medical departments of the Army and of the Navy, and the United States Public Health Service and the scientific sections shall each be entitled to one delegate and the remainder shall be apportioned among the constituent associations in proportion to their actual active membership as hereinafter provided in the By Laws

Since each scientific section and the medical departments of the Army and the Navy, and the United States Public Health Service are each represented by one delegate, there being fifteen regularly established sections and three government services, a total of 132 delegates can be apportioned among the fifty-four constituent associations

At the Boston session, 1921, the reapportionment of delegates was effected on the basis of one delegate for each 850 members or fraction thereof The total membership of the Association at that time was 84,971 April 1, 1924, the total membership was 90,056 It is manifest that the figure used as the basis of apportionment this year must be considerably larger than that used at Boston, since the membership of the House of Delegates is definitely fixed at 150 in the Constitution, and cannot be changed this year

The accompanying table shows the number of members in each constituent association as recorded in the office of the Secretary, April 1, 1924, and the number of delegates for each association on the basis of one delegate for 850 members, one for 900, and one for 950 members It will be seen that apportionment on the basis of one delegate for each 850 members will produce a number in excess of the constitutional limit of the number of delegates, as will also be the result if 900 members is used as the basic figure By using 950 as the basis of calculation, 128 delegates can be apportioned among the constituent associations, and thus the total voting membership of the House will be made 146 The present membership of the House, under the Boston apportionment, is a possible 149

If 950 is used as the basic number in determining the apportionment to be made at this session, California and Minnesota will gain one delegate each, while Illinois, Pennsylvania, Tennessee, Texas and Virginia will lose one delegate each The same losses and gains would be effected on any lower calculations, except such as would produce a total membership of the House larger than that specifically designated in the constitution

The House of Delegates may wish to consider an amendment to the constitution to provide for a larger voting membership than is now specified in Section 3, Article 5, of the Constitution An amendment of that nature proposed at this session would have to lie over until next year and could not become effective until 1927 unless the By-Laws are also amended with respect to the present provisions relative to the triennial period for reapportionment In considering this matter, it may be well to remember that the membership of the Association, April 1, 1924, was larger than ever before, of course, none can say whether it can be maintained or increased or whether there will be a more or less marked reduction next year and in future years If, for any reason, any considerable gain or loss should occur, it might become necessary then to secure still another change in the provision

of the By-Laws in order to insure fair representation It appears to be reasonable to expect that there will be no marked reduction in the membership of the Association, however, and this committee believes that to have a larger voting membership in the House of Delegates would tend to maintain and even to enhance the democratic spirit and purpose of the Association Many Fellows have expressed themselves as believing that the membership of the House should be made larger Those who oppose hold that to increase the number of voting members will be to make the size of the House unwieldy

*Number of Members in Constituent Associations, and Number of Delegates on Different Bases*

| State | Number of Members | Basis of Apportionments and Number of Delegates 850 | 900 | 950 | Increase Decrease on Basis of 950 | |
|---|---|---|---|---|---|---|
| Alabama | 1 682 | 2 | 2 | 2 | | |
| Arizona | 225 | 1 | 1 | 1 | | |
| Arkansas | 1 197 | 2 | 2 | 2 | | |
| California | 3 929 | 5 | 5 | 5 | 1 | |
| Colorado | 1 020 | 2 | 2 | 2 | | |
| Connecticut | 1,160 | 2 | 2 | 2 | | |
| Delaware | 147 | 1 | 1 | 1 | | |
| District of Columbia | 556 | 1 | 1 | 1 | | |
| Florida | 514 | 1 | 1 | 1 | | |
| Georgia | 1 716 | 3 | 2 | 2 | | |
| Idaho | 360 | 1 | 1 | 1 | | |
| Illinois | 6 653 | 8 | 8 | 8 | | 1 |
| Indiana | 2 735 | 4 | 4 | 3 | | |
| Iowa | 2 458 | 3 | 3 | 3 | | |
| Kansas | 1 640 | 2 | 2 | 2 | | |
| Kentucky | 1 969 | 3 | 3 | 3 | | |
| Louisiana | 1 169 | 2 | 2 | 2 | | |
| Maine | 767 | 1 | 1 | 1 | | |
| Maryland | 1 231 | 2 | 2 | 2 | | |
| Massachusetts | 4 078 | 5 | 5 | 5 | | |
| Michigan | 3 181 | 4 | 4 | 4 | | |
| Minnesota | 2 042 | 3 | 3 | 3 | 1 | |
| Mississippi | 1 034 | 2 | 2 | 2 | | |
| Missouri | 3 292 | 4 | 4 | 4 | | |
| Montana | 303 | 1 | 1 | 1 | | |
| Nebraska | 1,239 | 2 | 2 | 2 | | |
| Nevada | 115 | 1 | 1 | 1 | | |
| New Hampshire | 499 | 1 | 1 | 1 | | |
| New Jersey | 2 092 | 3 | 3 | 3 | | |
| New Mexico | 201 | 1 | 1 | 1 | | |
| New York | 10 087 | 12 | 12 | 11 | | |
| North Carolina | 1,656 | 2 | 2 | 2 | | |
| North Dakota | 385 | 1 | 1 | 1 | | |
| Ohio | 4 759 | 6 | 6 | 6 | | |
| Oklahoma | 1 539 | 2 | 2 | 2 | | |
| Oregon | 889 | 1 | 1 | 1 | | |
| Pennsylvania | 7 433 | 9 | 9 | 8 | | 1 |
| Rhode Island | 399 | 1 | 1 | 1 | | |
| South Carolina | 916 | 2 | 2 | 1 | | |
| South Dakota | 356 | 1 | 1 | 1 | | |
| Tennessee | 1 711 | 3 | 2 | 2 | | 1 |
| Texas | 3 650 | 5 | 5 | 4 | | 1 |
| Utah | 356 | 1 | 1 | 1 | | |
| Vermont | 389 | 1 | 1 | 1 | | |
| Virginia | 1 843 | 3 | 3 | 2 | | 1 |
| Washington | 1 122 | 2 | 2 | 2 | | |
| West Virginia | 1 142 | 2 | 2 | 2 | | |
| Wisconsin | 1 914 | 3 | 3 | 3 | | |
| Wyoming | 163 | 1 | 1 | 1 | | |
| Alaska | | 1 | 1 | 1 | | |
| Hawaii | | 1 | 1 | 1 | | |
| Isthmian Canal Zone | | 1 | 1 | 1 | | |
| Philippine Islands | | 1 | 1 | 1 | | |
| Porto Rico | | 1 | 1 | 1 | | |
| United States Army | | 1 | 1 | 1 | | |
| United States Navy | | 1 | 1 | 1 | | |
| United States Public Health Service | | 1 | 1 | 1 | | |
| Fifteen sections | | 15 | 15 | 15 | | |
| Totals | | 154 | 152 | 146 | 2 | 5 |

The committee recommends

1 That the reapportionment of delegates be effected on the basis of one delegate for each 950 members or fraction thereof for all constituent associations having a recorded membership of 950 or more Under the provisions of the By-Laws, each constituent association with smaller membership is, of course, entitled to one delegate

2 That the Constitution be amended at the next annual session as follows

Amend Section 3, Article 5, of the Constitution by substituting the figures 175 for the figures "150" in the second line of said section, so that the first sentence in this section shall read

The total voting membership of the House of Delegates shall not exceed 175

3 That the By-Laws be amended at the next annual session as follows

Amend Section 3, Chapter 1, of the By-Laws by substituting 1925 for "1903" in the second line of that section, so that the first sentence of Section 3, Chapter 1, of the By-Laws shall read

At the annual session of 1925, and every third year thereafter, the House of Delegates shall appoint a committee of five on reapportionment, of which the Speaker and the Secretary shall be members

F C WARNSHUIS, Chairman
T C CHALMERS
E M NEHER.
A T MCCORMACK
OLIN WEST

On motion of Dr Irvin Abell, Kentucky, the report was adopted as read

### Supplementary Report of Judicial Council

Dr M L Harris, Chairman, presented a supplementary report of the Judicial Council

The Judicial Council has considered the resolution offered by Dr John D McLean, Pennsylvania, as follows

*Resolved*, That the practice of medicine for a definite amount per day month or year with an indefinite service is against the Principles of Medical Ethics as defined by the American Medical Association

The Council recommends that this resolution be not approved

The recommendation of the Council was adopted

### Supplementary Report of Reference Committee on Hygiene and Public Health

The following supplementary report of the Reference Committee on Hygiene and Public Health was presented by its chairman, Dr J W Kerr, United States Public Health Service

Your committee has to report on two remaining matters referred to it

1 In returning the communication submitted by Dr Southgate Leigh on behalf of the Medical and Surgical Section of the American Railway Association, it is respectfully recommended that approval be granted for the publication by the American Medical Association of the report of the Special Committee on Traumatic and Industrial Hernia submitted by Dr Leigh, and it is suggested that the report be given such consideration by the Board of Trustees as is deemed pertinent

2 With respect to the correspondence had between the President of the American Medical Association and the president of the National Narcotic Education Association, it is understood this matter has already been in the hands of the Board of Trustees The correspondence is accordingly returned without recommendation

J W KERR, Chairman

The report of the committee was adopted

### Supplementary Report of Reference Committee on Legislation and Public Relations

A supplementary report of the Reference Committee on Legislation and Public Relations was submitted by Dr Joseph A Pettit, Chairman, as follows

The following resolution was introduced by Dr John D McLean, Pennsylvania, June 10

WHEREAS The honor and integrity of the medical profession are being discredited by the unnecessary unprofessional and unlawful prescribing of alcoholic liquors by some unscrupulous physicians be it

*Resolved* That in the judgment of the House of Delegates of the American Medical Association in session assembled every state and county medical association should use their best endeavor to discipline physicians who either negligently or wilfully prescribe alcoholic liquors otherwise than in accordance with the law, and to purge the medical profession of physicians who wilfully under the cloak of their profession prescribe alcoholic liquors for other than medicinal purposes and

*Resolved further* That the Secretary of this Association forward a copy of this resolution to the federal prohibition officer in Washington and to every state prohibition officer of the United States with a request for their cooperation

Your reference committee recommends that the House of Delegates approve this resolution

The following resolution was introduced by Dr T C Edwards, California, June 10

WHEREAS, It is extremely important that constituent state societies be kept in touch with decisions involving cases of alleged malpractice, be it

*Resolved*, That the Bureau of Legal Medicine and Legislation of the American Medical Association be asked to make and furnish a copy of these decisions to the office of constituent state societies for use by their attorneys

Your reference committee recommends that the House of Delegates approve this resolution

The report was discussed by Drs Wendell C Phillips, J W Van Derslice and T C Edwards, and on motion of Dr Van Derslice the recommendation of the committee was amended to provide for reference of the resolution of Dr T C Edwards, California, to the Board of Trustees

The report of the Committee on Legislation and Public Relations as amended was adopted

### Supplementary Report of Reference Committee on Reports of Officers

A supplementary report of the Committee on Reports of Officers was submitted by Dr Holman Taylor, Chairman, and was adopted by the House

The extemporaneous address of President Wilbur has been referred to this committee The address has been carefully considered, and the committee begs to commend it most highly It deals with two problems of supreme importance, both to the medical profession and to the public it serves Truly, 'Great forces are stirring in every part of society," and medical and public health problems are seriously involved As pointed out by the President, it remains to be seen whether the medical profession will secure to itself the leadership in the advances and extensions that are being made, as the telephone companies appear to have done, or whether it will remain behind the times and expend its energies in vainly attempting to stem the tide, as the railroad companies evidently have done We treasure individualism in medicine, and if our high purposes are to be carried out and ideals realized, there must never be bureaucracy in medicine, nor must there be interposed between the physician and those whom he would serve any intermediator whatsoever In this particular we beg to quote the words of the President

"The fund of information is there We stand between that information and the public It is our problem to provide for its distribution If we make those provisions wisely, if we meet the situation, then we will retain the mastery, if we fail, education has reached such a level that others will begin to demand that there be a distribution of this information available to the human race and we will lose our position of mastery I have confidence that we will maintain it"

### Report of Reference Committee on Miscellaneous Business

Dr H P Beirne, chairman of the Reference Committee on Miscellaneous Business, submitted the following report, which was adopted by the House

The following communication was referred to the Reference Committee on Miscellaneous Business

ALTADENA, CALIF., May 27, 1924

*To the President and Members of the House of Delegates of the American Medical Association, Chicago Illinois*

Gentlemen —It would be an appreciated courtesy if you will recommend to the Association the creation of an auxiliary membership to include physicians in good standing, who have retired from practice but are interested to the extent of paying the dues, such an affiliation to permit them to attend the meetings, read papers and take part in the discussions, but not to vote

Such a membership would keep alive the smoldering embers on the altar of Esculapius, and fan them into a glow that would light the path way of the old physician adown his shortening corridor of time

J E MINNEY, M D

Your committee does not feel that there is any urgent necessity for making a change in procedure, or in granting this request, so we recommend that the request be not granted

H P BEIRNE, Chairman
W R BATHURST

Dr J R Kevin, New York, rising to a point of information, asked to know what had become of a resolution introduced by him and referred to the Committee on Hygiene and Public Health and not yet reported on The Secretary stated that this resolution had been properly transmitted to the committee Dr J W Kerr, Chairman, asked that the committee be given opportunity to find the resolution and report

Dr A E Bulson, Indiana, chairman of the special committee appointed by the Speaker to prepare resolutions on the death and services of William Whitford, requested that further time be given the committee to prepare resolutions which should be spread on the minutes of the House The request was granted by the House

Dr J E Lane, Council on Scientific Assembly, made a statement relative to section meetings and arragements for the Scientific Assembly

Dr H M Brown, Wisconsin, asked unanimous consent of the House for the nomination of Dr Fielding H Garrison, for the relation of Associate Fellow Consent was granted by the House and Dr Brown nominated and moved the election of Fielding H Garrison as Associate Fellow Dr Garrison was unanimously elected

### Resolution on Trachoma Work Among Indians

Dr Cassius D Wescott, Section on Ophthalmology, presented the following resolution, which was adopted

The Indian Bureau plans intensive work in one of the Southwestern states for the cure of Indian patients suffering from trachoma, and the restriction of the disease among the Indians Operations will be conducted by the field force of the Indian Bureau, in conjunction with the United States Public Health Service and the state health department The planning of the campaign, the directing and supervising of its conduct, and the evaluation of the results demand the best the medical profession of the country can afford in the way of knowledge, experience and expert advice It is suggested, therefore, that the Board of Trustees be authorized by the House of Delegates to tender to the Secretary of the Interior and to the Commissioner of Indian Affairs the services of an expert advisory medical committee, and in event of the acceptance of the tender, to appoint such a committee To the end named, the following resolution is offered

WHEREAS, The Section on Ophthalmology is advised that the Secretary of the Interior is about to undertake through the Commissioner of Indian Affairs an intensive campaign to check the ravages of trachoma among certain Indian tribes and to relieve suffering therefrom, and

WHEREAS, The problem is one calling for the best ophthalmologic knowledge, experience and advice, be it

*Resolved*, That the Section on Ophthalmology recommend to the House of Delegates that the Board of Trustees be authorized and requested to tender to the Secretary of the Interior and the Commissioner of Indian Affairs the services of a medical advisory committee to cooperate with the Indian Bureau in its efforts to reduce the prevalence of trachoma among the Indian tribes and to relieve patients suffering from that disease, and that the Board be further authorized and requested, in event of the acceptance of its offer, to appoint such a committee Also be it

*Resolved*, That if this resolution is adopted by the House of Delegates the Executive Committee of the Section on Ophthalmology be authorized to suggest men for such a committee, if asked

### Supplementary Report of Committee on Hygiene and Public Health Reference

Dr J W Kerr, chairman of the Reference Committee on Hygiene and Public Health, presented a supplementary report of that committee, as follows

The Reference Committee on Hygiene and Public Health has considered the following resolution, introduced by Dr J Richard Kevin, New York, and moves its adoption

WHEREAS, The American Medical Association is in sympathy with, and has officially approved, periodic medical examinations of apparently healthy persons, and

WHEREAS, Physicians generally require some concrete formulas and suggestions by which such health examinations can be effectively accomplished, and

WHEREAS, Such assistance can be best provided by a properly prepared manual compiled from existing experience in this field of medical practice, therefore, be it

*Resolved*, That the House of Delegates direct the Board of Trustees to cause such a manual to be published immediately and made available to all physicians

After discussion by Dr A J Bedell, New York, J W Van Derslice, Illinois, Dr Southgate Leigh, Virginia, and Dr J R Kevin, New York, on motion of Dr J W Van Derslice, Illinois, the recommendation of the committee was amended to refer the resolution of Dr Kevin to the Board of Trustees

### Proposed Amendment to By-Laws

Dr G E Follansbee, Ohio, presented the following proposed amendment to Chapter 4, Section 1, Page 9, of the By Laws

To insert after the first sentence

At some time between the first and fourth day of the Annual Session of the House of Delegates the chairmen and the secretaries of the various sections of the Scientific Assembly and the members of the Council on Scientific Assembly shall meet at the call of the chairman of the Council on Scientific Assembly and shall prepare and present to the House of Delegates at their meeting on the fourth day of the annual session of the House of Delegates three nominees for the office of President Elect and two nominees for the office of Vice President and the nominees so presented shall be the only ones eligible for election

The Speaker ruled that the proposed amendment shall be considered at the next annual session of the House of Delegates

### Supplementary Report of Board of Trustees

The Secretary presented the supplementary report of the Board of Trustees as follows

The Board of Trustees has considered the resolution introduced by the President, Dr W A Pusey, providing for an amendment to Section 1 of Article VI of the Constitution for the insertion of the words, "a President-Elect" The effect of the proposed amendment will be to make the President-Elect a general officer of the Association The Board of Trustees recommends the adoption of such amendment

The Speaker ruled that the report of the Board of Trustees would be received as notice of amendment to the Constitution and that under the rules will lie over until the next annual session

### Resolution from Section on Preventive and Industrial Medicine and Public Health

The Secretary presented a communication from the Section on Preventive and Industrial Medicine and Public Health as follows

*Resolved* That it is the sense of the Section on Preventive and Industrial Medicine and Public Health that the use of water by a municipality for the purposes of drinking sanitation and the preservation of health is more important for social welfare than is any other purpose to which water can be put and therefore should take precedence in law and in custom over all other demands for water, and be it

*Resolved* That a high disease and death rate from typhoid fever and other diseases due to the use of polluted water by the people of any municipality through carriers and otherwise would imperil the country at large

W S LEATHERS, Chairman
W F DRAPER, Secretary

On motion of Dr J W Van Derslice, Illinois, the resolution presented in this communication was adopted by the House

The Secretary read a telegram from Dr W E Musgrave, retiring Vice-President, and a telegram from the Cuban embassy, advising the House of the designation of Dr Octavio Montoro as a representative of the Cuban government at the annual session of the Association

#### CONCLUDING MOTIONS

On motion of Dr Albert Soiland, California, a rising vote of thanks was tendered by the House to the officers of the American Medical Association, to the Local Committee on Arrangements and to its subcommittees, to the headquarters' staff of the American Medical Association, and to the Speaker of the House for their efforts to make and to carry out arrangements which had contributed so much to the success of the Seventy-Fifth Annual Session The motion of Dr Soiland was adopted by a rising vote

On motion of Dr D E Sullivan, New Hampshire, the House of Delegates by a rising vote expressed its appreciation of the long and valuable services of Dr Frank Billings, retiring trustee, and its best wishes for a long, prosperous and happy life for Dr Billings

The Speaker congratulated the House on the splendid manner in which its members had conducted the business that had come before the House, and expressed his appreciation for the cooperation and kindness he had received at the hands of members of the House

On motion of Dr J A Pettit, Oregon, the House by a rising vote extended its thanks to the Speaker, Dr F C Warnshuis, for the fairness and precision with which he had directed the business of the House as its Speaker

There being no further business to come before the House, the Speaker declared the House of Delegates adjourned sine die

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# MINUTES OF THE SECTIONS

## SECTION ON PRACTICE OF MEDICINE

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Joseph A Capps, Chicago

Dr F M Pottenger, Monrovia, Calif, read a paper on What Has Been Accomplished in Twenty Years of Sanatorium Study and Treatment of Tuberculosis" Discussed by Drs J M Anders, Philadelphia, and F M Pottenger, Monrovia, Calif

Dr William S Thayer, Baltimore, read a paper on "The Cardiac Manifestations of Rheumatic Fever" Discussed by Drs Emanuel Libman New York, S A Walkowiak, Detroit, F S Kilgore, San Francisco, C D Christie, Cleveland, and William S Thayer, Baltimore

The President, Dr William Allen Pusey, and the retiring President, Dr Ray Lyman Wilbur, addressed the section

Dr J M Anders, Philadelphia, read a paper on "Indications for, and Methods of, Administering Hydrotherapy" Discussed by Dr Mary Freeman Perrine, Fla

Dr L G Rowntree Rochester, Minn, read a paper on Studies in Diabetes Insipidus" No discussion

Drs Clarence Gamble, Philadelphia, and Richard C Cabot Boston, presented a paper on 'The Electric Stethoscope and Electrical Filters as Aids to Diagnosis" No discussion

Dr Seale Harris, Birmingham, Ala, read a paper on Hyperinsulinism Preliminary Report"

Dr Russell M Wilder, Rochester Minn, read a paper on 'Optimal' Diabetic Diets"

Dr Elliott P Joslin, Boston, read a paper on 'The Present Problem in Diabetes" These three papers were discussed by Prof Karl Petren, Lund, Sweden, and W M Boothby, Rochester, Minn, Don H Duffie, Central Lake, Mich, S B McKerrihan, Portsmouth, Ohio, R Logefeil, Minneapolis, Seale Harris, Birmingham, Ala, R M Wilder, Rochester, Minn, and E P Joslin, Boston

THURSDAY, JUNE 12—AFTERNOON

Dr Joseph A Capps, Chicago, read the chairman's address, entitled Irrational Tendencies in Modern Therapy"

Dr V P Sydenstricker, Augusta, Ga, read a paper on "Further Observation on Sickle Cell Anemia" Discussed by Drs J B Herrick, Chicago, W A Mulherin, Augusta, Ga, V E Emmel, Chicago, and V P Sydenstricker, Augusta, Ga

Dr Russell L Haden, Kansas City, Mo, read a paper on 'The Value of Volume Index in the Diagnosis of Pernicious Anemia" Discussed by Drs H C Giffin, Rochester, Minn, Joseph A Capps, Chicago, and R L Haden, Kansas City, Mo

Drs John M Blackford and M F Dwyer, Seattle, presented a paper on Causes of Dyspepsia" Discussed by Drs G B Eusterman, Rochester, Minn, Ludwig Aschoff, Freiburg, Germany, Robert T Morris, New York, and John M Blackford Seattle

Dr George F Dick, Chicago read a paper on "The Prevention of Scarlet Fever" Discussed by Dr Abraham Zingher, New York

Dr Myer Solis Cohen, Philadelphia, read a paper on Visceral Disease Due to Bacterial Infection of an Apparently Normal Upper Respiratory Tract" No discussion

Dr J A Bargen, Rochester, Minn read a paper on "Experimental Studies on the Etiology of Chronic Ulcerative Colitis' Discussed by Dr E C Rosenow, Rochester, Minn

FRIDAY, JUNE 13—AFTERNOON

The following officers were elected chairman, Dr Elliott P Joslin, Boston, vice chairman, Dr H C Giffin, Rochester, Minn, secretary, Dr Eugene S Kilgore, San Francisco

Dr Alfred Friedlander, Cincinnati, read a paper on "Clinical Types of Hypotension" No discussion

Dr Ralph H Major, Kansas City, Kan, read a paper on 'Relationship Between Certain Products of Metabolism and Arterial Hypertension" Discussed by Drs Joseph L Miller, Chicago, Solomon Strouse, Chicago, and Ralph H Major, Kansas City, Kan

Drs James E Talley and Walter H Lindsey, Philadelphia, presented a paper on "Splenic Enlargement in Chronic Cardiac Disease" Discussed by Dr Robert B Preble, Chicago

Dr Burton E Hamilton, Boston, read a paper on "Heart Failure of the Congestive Type Resulting from Hyperthyroidism" Discussed by Drs W M Boothby, Rochester, Minn, F H Lahey, Boston, and B E Hamilton, Boston

Dr Paul D White, Boston, read a paper on "The Incidence of Rheumatic Fever, Chorea and Rheumatic Heart Disease, with Especial Reference to Its Occurrence in Families" Discussed by Drs May G Wilson, New York, and Paul D White, Boston

Dr James S McLester, Birmingham, Ala, read a paper on "The Principles Involved in the Treatment of Obesity" No discussion

## SECTION ON SURGERY, GENERAL AND ABDOMINAL

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr Urban Maes, New Orleans

Dr M E Blahd, Cleveland, read a paper on "Regional Anesthesia Its Use in General Surgery"

Dr Robert Emmett Farr, Minneapolis, read a paper on 'A Method of Obtaining Anterior Sympathetic Anesthesia in Abdominal Surgery"

These two papers were discussed by Drs W T Coughlin, St Louis, Carl Beck, Chicago, M E Blahd, Cleveland, and Robert Emmett Farr, Minneapolis

Dr W O Sweek, Phoenix, Ariz, read a paper on "Oxids of Nitrogen in Wound Infections" Discussed by Dr Warner W Watkins, Phoenix, Ariz

Dr Willias C Campbell, Memphis, Tenn, read a paper on "Mobilization of Joints with Bony Ankylosis An Analysis of One Hundred Cases" Discussed by Drs M S Henderson, Rochester, Minn, Edwin W Ryerson, Chicago, Kellogg Speed, Chicago, C H Magee, Burlington, Iowa, and Willis C Campbell, Memphis, Tenn

Dr John B Deaver, Philadelphia, read a paper on "Cholecystectomy Versus Cholecystostomy" Discussed by Drs Stanley Reimmann, Philadelphia, J Earl Else, Portland, Ore, and Florus F Lawrence, Columbus, Ohio

Dr Francis R Holbrook, Des Moines, Iowa, read a paper on "the Diagnosis and Management of Head Injuries" Discussed by Drs F A Besley, Chicago, Kellogg Speed, Chicago, George W Swift, Seattle, M E Blahd, Cleveland, and Francis R Holbrook, Des Moines, Iowa

Dr Clarence A McWilliams, New York, read a paper on "Suggestions as to the Treatment of Total Avulsion of the Scalp, with Remarks on Skin Grafting"

Dr William T Coughlin, St Louis, read a paper on "The Repair of Defects about the Chin from the Standpoint of a General Surgeon"

These two papers were discussed by Drs Harry P Ritchie, St Paul, and G V I Brown, Milwaukee

The President, Dr William Allen Pusey, and the retiring President, Dr Ray Lyman Wilbur, and the speaker of the House, Dr F C Warnshuis, addressed the section

THURSDAY, JUNE 12—MORNING

The meeting was called to order at 9 o'clock by the chairman

Dr Urban Maes, New Orleans, read the chairman's address, entitled "Some Suggested Reforms in the Medical Curriculum"

Dr W L Brown, El Paso, Texas, read a paper on "Further Observations on the Treatment of Postoperative Vomiting, Distention, and Peritonitis by Continued Drainage and Lavage with the Duodenal Tube and Massive Hot Applications" Discussed by Drs Moses Behrend, Philadelphia, Thomas G Orr, Kansas City, Mo, Rudolph Matas, New Orleans, and W L Brown, El Paso, Texas

Dr Marshall Clinton, Buffalo, read a paper on "Subcostal Neuritis as a Cause of Abdominal Pain" Discussed by Drs Lewis H McKinnie, Colorado Springs, Colo, A J Carlson, Chicago, W R Cubbins, Chicago, and Marshall Clinton, Buffalo

Dr Percival Bailey, Boston, read a paper on "Hypophysial Adenomas"

Dr George W Crile, Cleveland, read a paper on "Thyroid Gland"

Dr William J Mayo, Rochester, Minn, read a paper on "Certain Blood Dyscrasias Dependent on Pathologic Condition of Spleen"

These three papers were discussed by Drs A J Carlson, Chicago, J L Yates, Milwaukee, W D Haggard, Nashville, Tenn, E M Hanrahan, Jr, Baltimore, Frank H Lahey, Boston, J M Blackford, Seattle, Percival Bailey, Boston, George W Crile, Cleveland, and William J Mayo, Rochester, Minn

FRIDAY, JUNE 13—MORNING

The meeting was called to order at 9 o'clock by the chairman

The following officers were elected chairman, Dr Evarts A Graham, St Louis, vice chairman, Dr Vernon C David, Chicago, secretary, J Tate Mason, Seattle, delegate, Dr Carl B Davis, Chicago, alternate, Dr F W Bancroft, New York

Dr William Francis Rienhoff, Jr, Baltimore, read a paper on 'Congenital Arteriovenous Fistula Discussion of Etiology and Operative Treatment, with Report of a Case"

Dr Mont R Reid, Cincinnati, read a paper on "Five Cases of Subclavian Arteriovenous Aneurysm"

These two papers were discussed by Drs Barney Brooks, St Louis, Rudolph Matas, New Orleans, W F Remhoff, Jr, Baltimore, and Mont R Reid, Cincinnati

Dr Edwin I Bartlett, San Francisco, read a paper on "The Treatment of Blue Dome Cyst" Discussed by Drs William C MacCarty, Rochester, Minn, Frank E Adair, New York, and Edwin I Bartlett, San Francisco

Dr Fred W Rankin, Louisville, Ky, read a paper on "Choice of Operation in Cancer of the Colon, Not Including the Rectum" Discussed by Drs E Starr Judd, Rochester, Minn, Arthur D Bevan, Chicago, Carl B Davis, Chicago, and Fred W Rankin, Louisville, Ky

Dr Donald C Balfour, Rochester, Minn, read a paper on "The Case Against Gastro-Enterostomy" Discussed by Drs J Shelton Horsley, Richmond, Va, B W Sippy, Chicago, Alfred A Strauss, Chicago, R T Morris, New York, C H Mayo, Rochester, Minn, Willard Bartlett, St Louis, W D Haggard, Nashville, Tenn, and Donald C Balfour, Rochester, Minn

The President-Elect, Dr W D Haggard, addressed the section

## SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Frank W Lynch, San Francisco

Dr L E Phaneuf, Boston, read a paper on "Intraperitoneal Hemorrhage from Ruptured Ovarian Cyst"

Dr Alice Maxwell, San Francisco, read a paper on "The Fate and Function of Ovaries After Hysterectomy"

These two papers were discussed by Drs Emil Ries, Chicago, Carey Culbertson, Chicago, Emil Novak, Baltimore, Arthur H Curtis, Chicago, Henry T Byford, Chicago, L E Phaneuf, Boston, and Alice Maxwell, San Francisco

Drs Emil Novak and R W TeLinde, Baltimore, presented a paper on "The Endometrium of the Menstruating Uterus" Discussed by Prof George W Bartelemey, Chicago, and Dr Emil Novak, Baltimore

Drs L A Pomeroy and Abraham Strauss, Cleveland, presented a paper on "A Review of One Hundred Cases of Carcinoma of the Cervix, with Special Reference to the Predominating Type of Cell"

Dr J F Percy, Los Angeles, read a paper on "Cautery Knife Excision of the Malignant Uterus Technic and Results"

Drs Harold C Bailey and William P Healy, New York, presented a paper on Methods of Treatment and Results in One Thousand and Twenty-four Cases of Cancer of the Uterine Cervix, Treated by Radium and Roentgen Ray"

Dr Louisa Martindale, London, England, read a paper on 'The Treatment of Fibromyomas of the Uterus and Other Causes of Menorrhagia by Intensive Roentgen-Ray Therapy, with Especial Reference to the Possible Complication of Malignant Disease"

These four papers were discussed by Drs George Gray Ward New York, Arthur H Curtis, Chicago, Abraham Strauss, Cleveland, J F Percy, Los Angeles, W P Healy, New York, and Louisa Martindale, London, England

Dr Arthur H Curtis moved that a vote of thanks be given to Dr Martindale for her courtesy in coming here and for her very interesting paper Seconded and carried

The chairman appointed Drs George Gray Ward, New York, Arthur H Curtis, Chicago and Carey Culbertson, Chicago, to serve as the Executive Committee

The President, Dr William Allen Pusey, and the retiring President, Dr Ray Lyman Wilbur, addressed the section

THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2 o'clock by the secretary, Dr Carl Henry Davis, Milwaukee

Dr Frank W Lynch, San Francisco, read the chairman's address

Drs Joseph J Mundell and Charles W O Bunker, Washington, D C, presented a paper on The Value of Blood Chemistry in Pregnancy" Discussed by Drs J P Greenhill, Chicago, and Joseph J Mundell, Washington, D C

Drs R A Bartholomew and G B Adams, Atlanta, Ga, presented a paper on "Syphilis as a Complication of Pregnancy in the Negro, Analysis of Three Hundred Cases, Results of Antisyphilitic Treatment, the Dark Field Illumination as an Aid in the Diagnosis of Fetal Syphilis at Necropsy" Discussed by Dr R A Bartholomew, Atlanta, Ga

Dr A C Beck, Brooklyn, read a paper on "The Abdominal Binder as a Substitute for Pituitary Extract in the Second Stage of Labor" Discussed by Drs Bertha Van Hoosen, Chicago, J P Gardner, Toledo, Ohio, C Lee Graber, Cleveland, and A C Beck, Brooklyn

Drs Reuben Peterson and Norman F Miller, Ann Arbor, Mich, presented a paper on Thymus of the New-Born and Its Significance to the Obstetrician" No discussion

Dr C H Mayo, Rochester, Minn, read a paper on The Appendix in Relation to or as the Cause of Other Abdominal Diseases"

Dr Donald Macomber, Boston, read a paper on 'The Prevention of Sterility"

Dr W L Estes, Jr, Bethlehem, Pa, read a paper on Further Results with Ovarian Implantation as Distinguished from Transplantation" Discussed by Drs Joseph B DeLee, Chicago, Rudolph W Holmes, Chicago, Robert T Morris, New York, F F Lawrence, Columbus, Ohio, C H Mayo, Rochester Minn, Donald Macomber, Boston, and W L Estes, Jr, Bethlehem, Pa

FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 10 by the chairman

The following officers were elected chairman, Dr Rudolph W Holmes, Chicago, vice chairman, Dr Harold C Bailey, New York, Secretary Dr Carl Henry Davis, Milwaukee, delegate, Dr George Gray Ward, New York, alternate, Dr Arthur H Curtis, Chicago

Dr John B Swift, Boston, read a paper entitled 'When is Sterilization Indicated Following Cesarean Section?' Discussed by Drs Rudolph W Holmes, Chicago, and John B Swift, Boston

Dr F L Good Boston read a paper on "Pregnancy and Labor Complicated by Tumors and Injuries to the Spinal Cord" Discussed by Dr Dean Lewis Chicago

Dr H T Cooke Los Angeles, read a paper on Regional Nerve-Blocking in Labor"

Dr John S Lundy Rochester, Minn read a paper on A Comparative Study of Ethylene Anesthesia"

These two papers were discussed by Drs Isabella C Herb, Chicago, N Sproat Heaney, Chicago, C H Davis, Milwaukee F W Lynch, San Francisco, Arno B Luckhardt, Chicago, W F Hewitt, Chicago, W George Lee, Chicago, H T Cooke, Los Angeles, and John S Lundy, Rochester, Minn

Dr John J Gilbride, Philadelphia, read a paper on "Operations on Twelve Patients with Tumors of the Pancreas"

Drs A T Mann and H S Willson, Minneapolis, presented a paper on "Chronic Gallbladder Disease in the Young Adult"

Dr Arthur S Risser, Blackwell, Okla, read a paper on "Pancreatitis Cases and Comments"

These three papers were discussed by Dr G E Holtzapple, York, Pa

## SECTION ON OPHTHALMOLOGY

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9 15 by the chairman, Dr George S Derby, Boston

Dr George S Derby, Boston, read the chairman's address

It was moved by Dr George F Keiper, Lafayette, Ind, that a committee of five be appointed by the chairman to consider the point in the chairman's address in reference to the dispensing of glasses by oculists, their report to be handed to the delegate from this section, Dr Cassius D Wescott Seconded and carried

Dr Cassius D Wescott, Chicago, offered the resolution on trachoma work among the Indians, as it appears in the minutes of the House of Delegates

It was moved by Dr Edward Jackson, Denver, that this resolution be adopted Motion seconded

Dr J W Jervey, Greenville, S C, moved as a substitute that the chairman appoint a committee of three to consider this resolution and report back to this section Thursday morning Dr Wescott's motion was then withdrawn and Dr Jervey's motion carried

Dr John O McReynolds, Dallas, Texas, read a paper on "Further Observation on the Management of Pterygium" Discussed by Drs Walter R Parker, Detroit, G C Savage, Nashville, Tenn, W S Franklin, San Francisco, C Norman Howard, Warsaw, Ind, Clark W Hawley, Chicago, R H T Mann, Texarkana, Ark, S Lewis Ziegler, Philadelphia, W E Gamble Chicago, Edward B Heckel, Pittsburgh, Charles E Walker, Denver, and John O McReynolds, Dallas, Texas

Dr Max W Jacobs, St Louis, read a paper on "Retinal Hemorrhages in the New-Born" Discussed by Drs F Phinizy Calhoun, Atlanta, Ga, Arthur J Bedell, Albany, N Y, and Max W Jacobs, St Louis

The President, Dr William Allen Pusey, the retiring President, Dr Ray Lyman Wilbur, and the Speaker of the House of Delegates, Dr F C Warnshuis, addressed the section

Dr H H Stark, El Paso, Texas, read a paper on "Conjunctivitis Infectiosa Necroticans (Pascheff)" Discussed by Drs Derrick T Vail, Cincinnati, George F Keiper, Lafayette, Ind, Charles A Bahn, New Orleans, James M Patton, Omaha, Clark W Hawley, Chicago, and H H Stark, El Paso, Texas

Drs Lawrence K Lunt and Austin Fox Riggs, Stockbridge, Mass, presented a paper on 'The Ophthalmologist and the Psychoneuroses" Discussed by Drs William T Davis, Washington, D C, G C Savage, Nashville, Tenn, George F Keiper, Lafayette, Ind, Emory Hill, Richmond, Va, George S Derby, Boston, and Lawrence K. Lunt, Stockbridge, Mass

Dr Robert Cartwright Cheney, Boston, read a paper on 'Toxemias of Pregnancy from an Ophthalmologic Standpoint" Discussed by Dr Allen Greenwood, Boston, William C Posey, Philadelphia, Edward Jackson, Denver, Arnold Knapp, New York, and Robert Cartwright Cheney, Boston

The Chairman appointed the following committees Committee on Trachoma Drs Walter R Parker, F Phinizy Calhoun and E V L Brown Committee on Recommendation of President's Address Drs William Zentmayer, Melville Black, W S Franklin, Allen Greenwood and J W Jervey

Dr John A Donovan, Butte, Mont, read a paper on "Foreign Bodies in the Lens A New Method of Removal" Discussed by Dr Arnold Knapp, New York, and John A Donovan, Butte, Mont

THURSDAY, JUNE 12—MORNING

The meeting was called to order at 9 15 by the chairman

Dr Edward Jackson, Denver, presented scissors for use in magnet-scissors extraction of foreign body from the eye These scissors cut a channel from the opening in the sclera to the foreign body by cutting against the tissue, which is drawn by the magnetic attraction The tissue is forced between the blades of the scissors, an extremely important point that has not heretofore been sufficiently emphasized

Dr Jackson also presented a diaphragm for the Shahan lamp for use in skiascopy, also for central ophthalmoscopy with the Gullstrand lamp This diaphragm shuts off unnecessary light, and gives a point of light with a sharp edge

Dr G C Savage, Nashville, Tenn, presented an apparatus for the extraction of cataract in the capsule after the method of Hulen

Dr M Gertrude Slaughter, Chicago, presented a simple illuminated chart holder, which may be used for the determination of visual acuity in rural districts or other places where electric current is not available This chart holder folds into a small space and is to be connected with the physician's car If static electricity is used, a transformer is necessary

Dr Lucien Howe, Buffalo, presented two cats demonstrating the unusual action of epinephrin in the eye When epinephrin is applied to the conjunctiva of a cat, it produces little or no dilatation of the pupil, the superior ganglion is first taken out, which reduces the contraction, then epinephrin is applied, which causes the pupil to dilate

The Committee on Trachoma presented its report

The report of the Committee on Optical Questions was presented

Drs Walter Scott Franklin and Frederick C Cordes, San Francisco, presented a paper on "Lymphangioma of the Orbit" Discussed by Drs Marcus Feingold, New Orleans, R H T Mann, Texarkana, Ark, W R Parker, Detroit, Michael Goldenburg, Chicago, and Walter Scott Franklin, San Francisco

Dr Mary S Knight, Rochester, Minn, read a paper on "Melanotic Neoplasms of the Eye" Discussed by Drs E V L Brown Chicago, George F Keiper, Lafayette, Ind, Marcus Feingold, New Orleans, and Mary S Knight, Rochester, Minn

Dr Melville Black, Denver, read a paper on "Intravenous Use of Sodium Salicylate in Ocular Inflammations" Discussed by Drs John Green, Jr, St Louis, Albert E Bulson, Jr, Fort Wayne, Ind, James M Patton, Omaha, W H Roberts, Pasadena, Calif, and Melville Black, Denver

Dr Sylvester Judd Beach, Portland, Maine, read a paper on "Edema of the Eyelids" No discussion

Drs Harry S Gradle and Jules C Stein, Chicago, presented a paper on "Telescopic Spectacles and Magnifiers as Aids to Poor Vision" Discussed by Drs Walter B Lancaster, Boston, Miss Cabell, Secretary, Illinois Society for Prevention of Blindness, Louis D Green, San Francisco, William H Crisp, Denver, Melville Black, Denver, Nelson M Black, Milwaukee, and Jules C Stein, Chicago

Dr G E Pfahler, Philadelphia, read a paper on "Retrobulbar Sarcoma Treated by Roentgen Rays" Discussed by Drs S Lewis Ziegler, Philadelphia, William Zentmayer, Philadelphia, H Maxwell Langdon, Philadelphia, W H Roberts, Pasadena, Calif, and G E Pfahler, Philadelphia

Dr Laura A Lane, Minneapolis, read a paper on "Radium in Ophthalmology, with Especial Reference to Its Use in Benign Affections" Discussed by Drs Edward Jackson, Denver, S Lewis Ziegler, Philadelphia, Sanford Withers, Denver, George S Derby, Boston, Arthur J Bedell, Albany, N Y, Melville Black, Denver, Malcolm P Andrews, Manitowoc, Wis, W H Wilder, Chicago, John Green, Jr, St Louis, Harvey J Howard, Peking, China, and Laura A Lane, Minneapolis

FRIDAY, JUNE 13—MORNING

The report of the Committee on Hereditary Blindness was presented Moved by Dr Lucien Howe, Buffalo, that the report as published in the presession volume be adopted and the committee continued Motion seconded and carried

The report of the Committee on Investigation of Ocular Muscles was presented Dr Lucien Howe, chairman of this committee, reported progress On motion, the report was accepted and the committee continued

The report of the Committee on Local Anesthesia in Ophthalmic Work was presented Moved by Dr John Green, Jr, St Louis, that the report as published in the presession volume be accepted and the committee continued Motion seconded and carried

The report of the Committee on the Knapp Testimonial Fund was presented Moved by Dr J W Kimberlin, Kansas City, Mo, that the report as published in the presession volume be accepted Motion seconded and carried

The report of the Committee on Compensation Tables was presented Dr Harry Gradle, chairman of this committee, reported progress Moved by Dr William F Hardy, St Louis, that this report be accepted and the committee continued Motion seconded and carried

Dr Edward Jackson, Denver, presented the report of the Committee on Award of the Knapp Medal Moved by Dr E L Goar, Houston, Texas, that this report be accepted Motion seconded and carried

Dr Walter B Lancaster, Boston, reported for the American Board for Ophthalmic Examinations Moved by Dr A E Bulson, Jr, Fort Wayne, Ind, that this report be accepted Motion seconded and carried

The report of the Committee on Physical Standards for Drivers of Motor Vehicles was presented

Dr John A McReynolds, Chairman of the Executive Committee, read a letter from Dr Lucien Howe, Buffalo, putting at the disposal of the section the annual income from $1,500 for the purchase of medals to be awarded for research work, this to be known as the Prize Fund of the Section on Ophthalmology Moved by Dr Walter B Lancaster, Boston, that this gift be accepted Motion seconded and carried by rising vote

The following officers were elected chairman, Dr Marcus Feingold, New Orleans, vice chairman, Dr J M Patton, Omaha, secretary, Dr William C Finnoff, Denver, member of American Board for Ophthalmic Examinations, Dr Walter B Lancaster, Boston

Drs Arnold Knapp, New York, William Zentmayer, Philadelphia, and Walter B Lancaster, Boston, were elected to serve on the Committee on Award of the Knapp Medal It was moved by Dr E C Ellett, Memphis, Tenn, that it is the desire of this section that a list of the men to whom the Knapp Medal has been awarded, together with the titles of their papers, be published each year in the report of that committee Motion seconded and carried

Dr William E Shahan, St Louis, read a paper on "Normal Stereoperimetry" Discussed by Drs E L Goar, Houston, Texas, H Maxwell Langdon, Philadelphia, and William E Shahan, St Louis

Dr Harvey J Howard, Peking, China, read a paper on "Conclusions Concerning a Scleroconjunctival Suture in Cataract Extractions" Discussed by Drs E C Ellett, Memphis, Tenn, Louis D Green, San Francisco, L F Fisher, Chicago, S Lewis Ziegler, Philadelphia, Oscar Wilkinson, Washington, D C, John O McReynolds, Dallas, Texas, Marcus Feingold, New Orleans, Harold Gifford, Omaha, George S Derby, Boston, and Harvey J Howard, Peking, China

Dr Harold Gifford, Omaha, read a paper on "Miscellaneous Notes on Glaucoma" Discussed by Drs William Zentmayer, Philadelphia, Edwin N Robertson, Concordia, Kan, Michael Goldenburg, Chicago, Arnold Knapp, New York, Walter R Parker, Detroit, and Harold Gifford, Omaha

The Committee on Physical Standards for Drivers of Motor Vehicles made a further report, asking that a paragraph be inserted in the original report which provides for the existence of an appeal board to examine carefully such cases as

may fall below the standards specified in that report Moved by Dr Arthur J Bedell that the committee be continued and requested to report next year Motion seconded and carried

Dr J E Jennings, St Louis, read a paper on "A Simple Operation for the Relief of Mild Types of Entropion and Ectropion of the Lower Lid" Discussed by Drs W H Wilder, Chicago, S Lewis Ziegler, Philadelphia, John Green, Jr, St Louis, and G C Savage, Nashville, Tenn

Drs Helen Baldwin and Else A S Barthel, New York, presented a paper on the "Relation of Hyperglycemia to Cataract" Discussed by Dr H Maxwell Langdon, Philadelphia

The chairman expressed his appreciation of the interest and attendance of the members of the section, and the support given him during the year, also the appreciation of the section of the courtesies and kindnesses extended by the Chicago members of the section

Moved by Dr Allen Greenwood that the thanks of the section be extended to Dr Derby for the manner in which he conducted the affairs of the section Motion seconded and carried by rising vote

## SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

### WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 15 by the chairman, Dr Wendell C Phillips, New York

The chairman announced that the gavel of this section, which has been in use twenty-five years, has had the final name plate affixed to it and will be turned over to the headquarters of the American Medical Association, where a cabinet will be arranged to take care of such relics This gavel was presented to the section twenty-five years ago by Dr Emil Mayer of New York. Dr Wendell C Phillips presented the section with a new gavel

Dr Emil Mayer then made an informal report for the Necrology Committee This report was accepted and the section stood with bowed heads for one minute in memory of departed members

Dr Wendell C Phillips, New York, read the chairman's address

The secretary, Dr Samuel Iglauer, Cincinnati, read a letter from Dr John Sendziak, Warsaw, Poland, regretting his inability to be present, on account of illness

Dr Arthur B Duel, New York, read a paper on "Toxic Infection of the Auditory Nerve" Discussed by Drs J W Jervey, Greenville, S C, Norval H Pierce, Chicago, Clark W Hawley, Chicago, and Cullen F Welty, San Francisco

The President, Dr William Allen Pusey, and the retiring President, Dr Ray Lyman Wilbur, addressed the section

Dr Andrew A Eggston, New York, read a paper on "Allergic Reactions of the Upper Respiratory Tract" Discussed by Drs Karl K Koessler, Chicago, George Piness, Los Angeles and Andrew A Eggston, New York

Dr Greenfield Sluder, St Louis, read a paper on "Some Rhinologic Observations, with Speculation Concerning the Involuntary Nervous System" Discussed by Prof A J Carlson Chicago, and Drs H M Goodyear, Cincinnati, and Greenfield Sluder, St Louis In closing, Dr Sluder moved a vote of thanks to Prof A J Carlson for his discussion of this paper Motion seconded and carried

Dr Charles H Frazier, Philadelphia, read a paper on "The Anastomosis of the Recurrent Laryngeal Nerve with the Descendens Noni in Cases of Recurrent Laryngeal Paralysis" Discussed by Drs Joseph C Beck, Chicago, and Charles H Frazier, Philadelphia

Dr Emil Mayer, New York, moved a vote of thanks to Dr Wendell C Phillips for the gavel presented to the section Motion seconded and carried

### THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2 15 by Dr T D Carmody, Denver

Dr G Allen Robinson New York, read a paper on 'Radium Treatment of Neoplasms of the Upper Air Passages" Discussed by Drs Homer Dupuy New Orleans, Joseph C Beck, Chicago and G Allen Robinson, New York

Dr Samuel J Kopetzky, New York, read a paper on 'Systemic Infections Complicating Purulent Middle Ear Disease" Discussed by Drs John F Barnhill, Indianapolis, Cullen F Welty, San Francisco, Frank R Spencer, Boulder, Colo, Harry Boyd-Snee, South Bend, Ind, Emanuel Libman, New York, and Samuel J Kopetzky, New York

Dr Charles A Elsberg, New York, read a paper on "Technic of the Surgery of Brain Abscess"

Dr Joseph E J King, New York, read a paper on "The Treatment of Brain Abscess A Surgical Technic in which the Usual Drainage Methods Are Avoided, Report of Cases"

These two papers were discussed by Drs J F Barnhill, Indianapolis, and Charles A Elsberg

Dr Wells P Eagleton, Newark, N J, read a paper on "Surgical Treatment of Meningitis Third Contribution" Discussed by Drs George E Shambaugh, Chicago, Joseph C Beck, Chicago, and Wells P Eagleton, Newark, N J

Dr E I McKesson, Toledo, Ohio, read a paper on "Pure Gas-Oxygen Anesthesia for Ear, Nose and Throat Surgery" Discussed by Drs John Evans, Buffalo, T E Carmody, Denver, Oscar Wilkinson, Washington, D C, and E I McKesson, Toledo, Ohio

### FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 30 by the chairman, Dr Wendell C Phillips, New York

The following officers were elected chairman, Dr Charles W Richardson, Washington, D C, vice chairman, Dr Fielding O Lewis, Philadelphia, secretary, Dr Samuel Iglauer, Cincinnati

Dr Harold M Hays, New York, presented a new form of vibrator for the ear

Dr Chevalier Jackson, Philadelphia, presented, in the name of his associate, Dr Louis Clerf, a stereoscopic photograph of the larynx

Dr Maury M Stapler, Macon, Ga, presented a massage instrument which breaks up adhesions on the larynx

Dr William D Black, St Louis, presented for Dr Greenfield Sluder a self-retaining nasal speculum for intranasal surgery

Dr W Moore Thompson, Chicago, presented a new instrument to cure the thumb-sucking habit in a child

Dr Jacques Malmiak, Cincinnati, presented a radium carrier to be attached to the Hasslinger instrument

Dr M C Myerson, Brooklyn, presented an instrument for the improved irrigation of lung abscesses, with especial reference to upper lobe abscesses, also an improved elevator for submucous resection of the septum

The report of the Committee on Lye Legislation was presented Moved by Dr W B Chamberlin, Cleveland, that this report be received and placed on file, and that the recommendations made in the report be the voice of this section Motion seconded and carried

The report of the Committee on Examining Board for Otolaryngology was presented Moved by Dr A A Hayden Chicago, that the section concur in the recommendations of this committee Motion seconded and carried

The chairman appointed on the joint committee mentioned in the report, which is to constitute the American Board of Otolaryngology Dr Joseph C Beck, Chicago, and Dr Robert C Lynch, New Orleans

The report of the Committee on the Problems of the Hard of Hearing was presented In addition to the report, the chairman of the committee, Dr Harold M Hays, New York, made the following recommendations

That the manufacturers of hearing devices who have been endorsed by the American Federation of Organizations for the Hard of Hearing be endorsed by this section and that a list of such firms be sent to each member of this section

That a request be made to the American Federation of Organizations for the Hard of Hearing to prepare a list of lip reading teachers throughout the country and that a copy of such list be sent to each member of this section

Moved by Dr Charles W Richardson, Washington, D C that the report be received and the recommendations adopted Motion seconded and carried

The report of the Committee on Otolaryngic Hygiene of Swimming was presented Moved by Dr T D Carmody, Denver that the report be received and the committee continued Dr Carmody also suggested that the name of the

committee be changed to "Committee on Otorhinologic Hygiene of Swimming" Motion seconded and carried

The report of the Committee on Education of the Deaf Child was presented

Moved by Dr W B Chamberlin that the report be accepted and placed on file and the committee continued Motion seconded and carried

In the absence of Dr John Edmund MacKenty, New York, it was moved by Dr Joseph C Beck that his paper be read by title and that Dr Goodyear be allowed to present Dr MacKenty's slides Motion seconded and carried The paper was discussed by Drs Chevalier Jackson, Philadelphia, Fielding O Lewis, Philadelphia, Wendell C Phillips, New York, and Joseph C Beck, Chicago

Dr J A Pratt, Minneapolis, read a paper on the "Present Status of the Intranasal Ethmoid Operation" Discussed by Drs Ross H Skillem, Philadelphia, Charles W Richardson, Washington, D C, Cullen F Welty, San Francisco, Edwin McGinnis, Chicago, and J A Pratt, Minneapolis

Drs Chevalier Jackson, Louis H Clerf, Gabriel Tucker, Robert Lukens and William F Moore, Philadelphia, presented a paper on "Abscess of the Lung Its Treatment by Aspiration and Medication Through the Mouth" Discussed by Drs Thomas McCrae, W F Manges and Thomas A Shallow, Philadelphia

Moved by Dr A A Hayden, Chicago, that the thanks of this section be extended Drs McCrae, Manges and Shallow for their kindness in coming to discuss this paper Motion seconded and carried

The newly elected chairman, Dr Charles W Richardson, Washington, D C, was introduced and presided for the remainder of the session

Dr Carl A Hedblom, Rochester, Minn, read a paper on "Surgical Treatment of Pulmonary Abscess, with Especial Reference to the Post-Tonsillectomy Type" Discussed by Drs M C Myerson, Brooklyn, and Carl W Hedblom, Rochester, Minn

Dr Elbyrne G Gill, Roanoke, Va, read a paper on "Foreign Bodies in the Lung of Dental Origin, with Analysis of One Hundred and Seventeen Cases" Discussed by Drs W B Chamberlin, Cleveland, T E Carmody, Denver, and Chevalier Jackson, Philadelphia

## SECTION ON DISEASES OF CHILDREN

### WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr Henry F Helmholz, Rochester, Minn

Dr Henry F Helmholz, Rochester, Minn, read the chairman's address

The chairman appointed Dr Edgar P Copeland, Washington, D C, to serve on the Executive Committee, Dr E C Fleischner, San Francisco, being absent

Notice was given of a dinner at the Congress Hotel, with a reception to the foreign guests, Dr Heinrich Finkelstein, Berlin, Germany, and Dr Leonard Findlay, Glasgow, Scotland

The President, Dr William Allen Pusey, and the retiring President, Dr Ray Lyman Wilbur, addressed the section

An announcement was made of the new organization, the American Heart Association, to hold a meeting, Thursday, at 5 p m, to which members of the section were invited

Attention was called to a reprint of the report of the Committee on Examination of Accidents from the Use of Stearate of Zinc Dusting Powders, such reprints being for distribution

Dr Albert D Kaiser, Rochester, N Y, read a paper on "Effect of Tonsillectomy on General Health of Twelve Hundred Children, as Compared to an Equal Number Not Operated On" Discussed by Drs E S Ingersoll, Rochester, N Y, W A Mulherin, Augusta, Ga, William D Black, St Louis, and A D Kaiser, Rochester, N Y

Drs William H Park and Abraham Zingher, New York, presented a paper on "Immunity Results Obtained with Diphtheria Toxoid (Modified Toxin) and One-Tenth L+ Mixtures of Toxin-Antitoxin in the Public Schools of New York (Manhattan and the Bronx)" Discussed by Drs F C Neff, Kansas City, Mo, C A Earle, Des Plaines, Ill, and Abraham Zingher, New York

Dr William F Reasner, Minneapolis, read a paper on "Spread of Scarlet Fever in Private Homes and in Public Schools" Discussed by Drs Abraham Zingher, New York, George W Goler, Rochester, N Y, and William F Reasner, Minneapolis

Dr Max Seham, Minneapolis, read a paper on "Fatigue in School Children, with Special Reference to Classification and Management" Discussed by Drs L W Sauer, Evanston, Ill, May G Wilson, New York, and Max Seham, Minneapolis

Dr Borden S Veeder, St Louis, read a paper on "The Overweight Child" Discussed by Dr I A Abt, Chicago, F P Gengenbach, Denver, Lulu Hunt Peters, New York, and Borden S Veeder, St Louis

Dr W A Mulherin, Augusta, Ga, read a paper on "Sickle Cell Anemia, from a Pediatric Point of View" Discussed by Drs J E Cook, St Louis, Dr V P Sydenstricker, Augusta, Ga, and W A Mulherin, Augusta, Ga

### THURSDAY, JUNE 12—MORNING

The following papers were read as a symposium on "Appendicitis"

Dr R W Bolling, New York "Acute Appendicitis in Children"

Dr Charles G Mixter, Boston "Chronic Appendicitis in Children"

Dr John Howland, Baltimore "Acute Appendicitis in Children from the Medical Point of View"

These three papers were discussed by Drs Borden S Veeder, St Louis, I A Abt, Chicago, Robert T Morris, New York, E C Junger, Soldier, Iowa, and Charles G Mixter, Boston

Dr Heinrich Finkelstein, Berlin, Germany, read a paper on "Habitual Hyperthermia During Recovery from Scarlet Fever" No discussion

Dr Samuel Amberg, Rochester, Minn, read a paper on "Some Aspects of Enuresis" Discussed by Drs E J Huenekens, Minneapolis, John A Foote, Washington, D C, T L Bernberg, St Paul, and Samuel Amberg, Rochester, Minn

Dr Floyd S Clarke, Omaha, read a paper on "Rosenow's Serum in the Prevention of Paralysis in Anterior Poliomyelitis" Discussed by Drs E C Rosenow, Rochester, Minn, and Floyd S Clarke, Omaha

### FRIDAY, JUNE 13—MORNING

The following officers were elected chairman, Dr Edgar J Huenekens, Minneapolis, vice chairman, Dr Philip F Barbour, Louisville, Ky, secretary, Dr Hugh McCulloch, St Louis, delegate, Dr I A Abt, Chicago, member of Jacoby Fund, Dr W A Mulherin, Augusta, Ga, representative to the Children's Bureau, Dr Julius H Hess, Chicago

It was moved that the chairman appoint a committee of three to investigate the general question of advertising of proprietary foods in medical journals and to the laity, and report to the section at the next meeting

Seconded and carried

The Executive Committee reported that it had audited the funds of the Jacoby Fund and found them to be correct

Drs Charles C Dennie, Kansas City, Mo, and Hugh L Dwyer, Kansas City, Kan, presented a paper on "Results of Treatment in Four Hundred Cases of Congenital Syphilis" Discussed by Drs Borden S Veeder, St Louis, Leonard Findlay, Glasgow, Scotland, and Hugh L Dwyer, Kansas City, Kan

Drs Henry J Gerstenberg and S A Wahl, Cleveland, presented a paper on "Ultraviolet Ray Therapy in Peritoneal and Glandular Tuberculosis of Children" Discussed by Drs Lloyd M Otis, Celina, Ohio, and Henry J Gerstenberger, Cleveland

The following papers were read as a symposium on "Rickets"

Dr Leonard Findlay, Glasgow, Scotland "Rickets"

Dr C U Moore, Portland, Ore "Newer Clinical Signs of Early Rickets"

Dr Edwin T Wyman, Boston "The Organization of a Special Clinic for the Treatment of Rickets with Alpine Lamp in an Outpatient Department"

Dr Alfred F Hess, New York "The Influence of the Diet of the Mother During Pregnancy and Lactation on the Subsequent Development of Rickets in the Young"

Drs L R DeBuys and Ludo von Mysenbug, New Orleans "The Correlation Between the Clinical, Serologic and Radiologic Evidences of Rickets in the Breast Fed"

These five papers were discussed by Drs John Howland, Baltimore, H J Gerstenberger, Cleveland, Leonard Findlay, Glasgow, Scotland, C U Moore, Portland, Ore, A F Hess, New York, and L R DeBuys, New Orleans

Dr Frank C Neff, Kansas City, Mo, read a report on the Abraham Jacoby Fund for Pediatric Research, the committee on this fund consists of Drs L R DeBuys, New Orleans, F B Talbot, Boston, C G Grulee, Chicago, Harold K Faber, San Francisco, and F C Neff, Kansas City, Mo

Dr W McKim Marriott, St Louis, read a paper on "The Food Requirements of Malnourished Infants" Discussed by Drs Julius H Hess, Chicago, and W McKim Marriott, St Louis

## SECTION ON PHARMACOLOGY AND THERAPEUTICS

### WEDNESDAY, JUNE 11—MORNING

A joint meeting was held with the Section on Preventive and Industrial Medicine and Public Health For a report of the proceedings, see the minutes of that section

### THURSDAY, JUNE 12—MORNING

The meeting was called to order by the chairman, Dr Paul J Hanzlik, San Francisco

The chairman presented the names of Isidore Greenwold Ph D, New York, Frances Krasnow, Ph D, New York, and Dr Ambrose Hunsberger, Philadelphia, to be proposed by the section for Associate Membership in the Association It was moved and seconded and the motion carried that these names be endorsed by this section

Dr Hanzlik appointed Dr William Salant, Augusta, Ga, to serve on the Executive Committee, Dr Carl Voegtlin, Washington, D C, being absent

Dr Paul J Hanzlik, San Francisco, read the chairman's address, entitled 'The Basis of Allergic Phenomena"

Dr William Salant, Augusta, Ga, read a paper on "Conditions Modifying Actions of Drugs"

These two papers were discussed by Drs Torald Sollmann, Cleveland, Joseph L Miller, Chicago, R G Hoskins, Columbus, Ohio, F M Pottenger, Monrovia, Calif, V P Sydenstricker, Augusta, Ga, William Salant, Augusta, Ga, and Paul J Hanzlik, San Francisco

Dr Veader Leonard, Baltimore, read a paper on "Secretion of Bactericidal Urine and Disinfection of Urinary Tract Following Oral Administration of Certain Alkyl Derivatives of Resorcinol" Discussed by Drs Torald Sollmann, Cleveland, Hugh H Young, Baltimore, Paul J Hanzlik, San Francisco, George G Smith, Boston, Edwin G Davis, Omaha, W G Exton, New York, and Veader Leonard, Baltimore

Dr J Gardner Hopkins, New York, read a paper on "Antisyphilitic Action of Bismuth" Discussed by Drs J F Schamberg, Philadelphia, Torald Sollmann, Cleveland, and J Gardner Hopkins, New York

Drs Norman M Keith and C W Barrier, Rochester, Minn, presented a paper on "Calcium Therapy in Nephritis with Edema" Discussed by Drs P D White, Boston, L G Rowntree, Rochester, Minn, C W Greene, Columbia, Mo, and Norman M Keith, Rochester, Minn

### FRIDAY, JUNE 13—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr Paul J Hanzlik, San Francisco

The following officers were elected chairman, Dr Paul D White, Boston, vice chairman, Dr Franklin C McLean, Chicago, secretary, Dr Norman M Keith Rochester Minn, alternate, Dr Paul J Hanzlik, San Francisco

Dr G W Piness, Los Angeles, read a paper on "Comparative Methods of Protein Extraction with Chemical and Clinical Studies" Discussed by Drs J H Black, Dallas, Texas, and G W Piness, Los Angeles

Dr Phil L Marsh, Ann Arbor, Mich, read a paper on "Concealed Infections in Diabetes Mellitus" Discussed by Drs Bernard Fantus, Chicago, W W Hall, Watertown, N Y, R C Logefeil, Minneapolis, and Phil L Marsh, Ann Arbor, Mich

Dr Edward W Jackson, Rochester, N Y, read a paper on "Diathermy in Internal Medicine" Discussed by Drs Elnora C Folkmar, Washington, D C, Alfred Friedlander, Cincinnati, A A Witham, Portland, Ore, and Edward W Jackson, Rochester, N Y

## SECTION ON PATHOLOGY AND PHYSIOLOGY

### WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Kenneth M Lynch, Dallas, Texas

Dr Kenneth M Lynch Dallas, Texas, read the chairman's address, entitled "The Specialist in Pathologic Anatomy" No discussion

Dr Benjamin Taylor Terry, Nashville, Tenn, read a paper on "Rapid Provisional Microscopic Diagnosis of Malignancy, Without a Microtome" Discussed by Drs Fred D Weidman, Philadelphia, Herman Spitz, Nashville, Tenn, and Benjamin Taylor Terry, Nashville, Tenn

Dr Isaac Levin, New York, read a paper on "Action of Buried Glass Capillaries of Radium Emanation on Plant and Animal Tissues" Discussed by Drs Frank E Simpson, Chicago, and Isaac Levin New York

Drs Moses Behrend and Clinton S Herrman, Philadelphia, presented a paper on "Clinical Versus Experimental Anastomosis of the Hollow Viscera" Discussed by Drs J Shelton Horsley, Richmond, Va, Alfred A Strauss, Chicago, John G Sheldon, Kansas City, Mo, J L Ransohoff, Cincinnati, and Moses Behrend, Philadelphia

Dr Frank C Mann, Rochester, Minn, read a paper on "The Gallbladder A Physiologic Consideration" Discussed by Drs Moses Behrend, Philadelphia, Charles W Greene, Columbia, Mo, and Frank C Mann, Rochester, Minn

The President, Dr William Allen Pusey, and the retiring President Dr Ray Lyman Wilbur, addressed the section

Dr W H Manwaring, Palo Alto, Calif, read a paper on "The Hepatic Internal Secretion in Anaphylaxis" Discussed by Drs J P Simonds, Chicago, V H Moon, Indianapolis, and W H Manwaring, Palo Alto, Calif

Dr Harry J Corper, Denver read a paper on "Further Observations on a Chemical Factor in the Resistance to Tuberculosis" Discussed by Drs William F Petersen, Chicago, and Harry J Corper, Denver

Dr Charles D Aaron, Detroit, read a paper on "The Spectroscopic and Chemical Demonstration of Occult Blood in the Feces" Discussed by Drs Henry Albert, Reno, Nev, and Charles D Aaron, Detroit

The chairman presented the following names to be proposed by this section for Associate Membership in the American Medical Association

E O Jordan Ph D professor of hygiene and bacteriology University of Chicago Chicago
V E Emmel Ph D professor of anatomy University of Illinois Chicago
Fred Wilbur Tanner Ph D professor of bacteriology University of Illinois Urbana Ill
Walter Richard Miles Ph D profes or of experimental psychology Stanford University Calif
Harvey E Jordan Ph D professor of histology and embryology University of Virginia Charlottesville Va
Thomas Gordon Hull Ph D chief of division of laboratories Department of Public Health Springfield Ill
Carl O Lathrop Ph D assistant professor of bacteriology University of Buffalo Buffalo
Dr Stuart Mudd Rockefeller Institute New York (if satisfactory to the New York Medical Society)

Dr Charles W Greene Columbia Mo, requested that the name of Edgar D Allen Ph D, professor of anatomy, University of Missouri, Columbia, Mo be added to the list

It was moved and seconded and the motion carried that the foregoing names be endorsed by the section

THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Kenneth M Lynch, Dallas, Texas

The following papers were read as a symposium on "Cancer"

Dr Francis Carter Wood, New York "Experimental Pathology"

Dr James T Ewing, New York "Pathologic Diagnosis"

Dr Martin Engman, St Louis "Diagnosis of Epithelial Cancer of the Skin"

Dr John Dudley Dunham, Columbus, Ohio "The Point of View of the Internist"

Dr Edward Starr Judd, Rochester, Minn "The Surgical Treatment of Cancer"

Dr James T Case, Battle Creek, Mich "Radiation Therapy of Malignant Disease"

These six papers were discussed by Drs Claude Regaud, Paris, France, H Gideon Wells, Chicago, Dean Lewis, Chicago, Frank Smithies, Chicago, W C MacCarty, Rochester, Minn, Miss Maud Slye, Chicago, and Dr Francis Carter Wood, New York

FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Kenneth M Lynch, Dallas, Texas

The following officers were elected chairman, Dr Charles W Greene, Columbia, Mo, vice chairman, Dr Harry J Corper, Denver, secretary, Dr Josiah J Moore, Chicago

Dr Clyde Brooks, University, Ala, read a paper on "Preparation, Pharmacology and Therapeutic Use of Shattered Homoprotein" Discussed by Prof A J Carlson, Chicago, and Dr Clyde Brooks, University, Ala

Dr Charles W Greene, Columbia, Mo, read a paper on "Some Newer Points in the Physiology of the Smooth Muscle and Its Nerve Relations" Discussed by Dr J M Frazier, Belton, Texas, Prof A J Carlson, Chicago, and Dr Charles W Greene, Columbia, Mo

Dr Lawrence Weld Smith, Boston, read a paper on "The Role of Monilia Psilosis (Ashfordi) in Experimental Sprue (Including Mycologic Studies of Twenty Strains of Monilia)" Discussed by Drs David J Davis, Chicago, and Lawrence Weld Smith, Boston

Dr David J Davis, Chicago, read a report on "The Standardization of Clinical Laboratories"

Dr C W Edmunds, Ann Arbor, Mich, read a paper on "Further Experiments with the Botulinus Toxin" Discussed by Dr J C Geiger, Chicago, Prof A J Carlson, Chicago, and Dr C W Edmunds, Ann Arbor, Mich

Dr H R Wahl, Rosedale, Kan, read a paper on "An Unusual Fungus Occurring in Three Cases of Chronic Pulmonary Infection" Discussed by Dr David J Davis, Chicago

Dr Nelson F Fisher, Dallas, Texas, read a paper on "The Regeneration of the Pancreas" Discussed by Prof A J Carlson, Chicago, Drs H R Wahl, Rosedale, Kan, and Nelson F Fisher, Dallas

## SECTION ON STOMATOLOGY

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Joseph A Pettit, Portland, Ore

Dr Weston A Price, Cleveland, Ohio, read a paper on "Some Structural and Biochemical Factors Involved in Dental Infections and Related Degenerative Diseases"

Drs L W Johnson, Washington, D C, and John William Draper, New York, presented a paper on "The Remote Pathologic Influence of Oral Infections"

Dr George B Eusterman, Rochester, Minn, read a paper on "Clinical and Pathologic Aspects of Focal Infection, with Especial Reference to the Oronasal and Pharyngeal Tract"

These three papers were discussed by Drs Charles H Mayo, Rochester, Minn, Arthur D Black and Frederick B Moorehead, Chicago, Myer Solis Cohen, Philadelphia, John J Sullivan, Boston, Weston A Price, Cleveland, and L W Johnson, Washington, D C

Dr S D Ruggles, Portsmouth, Ohio, read a paper on "Primary Hypertrophy of the Gums" Discussed by Drs Herbert A Potts, Chicago, and V H Kazanjian, Boston

The President, Dr William Allen Pusey, and the retiring President, Dr Ray Lyman Wilbur, addressed the section

THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2 10 by Dr Robert H Ivy, Philadelphia, in the absence of Dr Pettit

Dr Leroy M Ennis, Philadelphia, Pa, read a paper on "Observations on the Diagnosis of Oral Foci of Infection" Discussed by Drs Robert T Morris, New York, Edward H Hatton, Chicago, M C Smith, Lynn, Mass, and Leroy M Ennis, Philadelphia

Drs Frederick A Figi and Gordon B New, Rochester, Minn, presented a paper on "The Value of the Roentgenogram in the Diagnosis of Jaw Tumors" Discussed by Drs M C Smith, Lynn, Mass, G M Dorrance, Philadelphia, C W Waldron, Minneapolis, W T Coughlin, St Louis, L W Juergens, Milwaukee, George V I Brown, Milwaukee, Herbert A Potts, Chicago, Robert H Ivy, Philadelphia, and Frederick A Figi, Rochester, Minn

Dr Hugh W MacMillan, Cincinnati, read a paper on "A Study of Relative Density of Anatomic Structures as Affecting the Teeth and Supporting Parts" Discussed by Drs Frederick Noyes, Chicago, Edward H Hatton, Chicago, and Hugh W MacMillan, Cincinnati

Dr Harry Parker, Rochester, Minn, read a paper on "Pain in the Fifth Nerve Area Some Unusual and Unclassified Forms"

Dr George M Dorrance Philadelphia, read a paper on "The Chemical Division of the Gasserian Ganglion for Tic Douloureux"

These two papers were discussed by Drs William T Coughlin, St Louis, Frederick A Figi, Rochester, Minn, Frank J Tainter, St Louis, A P Munsch, St Louis, Frederick B Moorehead, Chicago, Harry Parker, Rochester, Minn, and George M Dorrance, Philadelphia

FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Joseph A Pettit, Portland, Ore

It was moved by Dr Robert H Ivy, Philadelphia, that the paper of Dr Lucius W Johnson, Washington, D C, on "Surgery of the Supra-Orbital Region," be read by title, as Dr Johnson was ill Seconded by Dr Frederick B Moorehead, Chicago, and carried

It was moved by Dr Robert H Ivy, Philadelphia, that the chairman's address, entitled "Oral Infections, with Especial Reference to Oral Tumors," be read by title Seconded by Dr George V I Brown, Milwaukee, and carried

The following officers were elected chairman, Dr C W Waldron, Minneapolis, vice chairman, Dr William P Healy, New York, secretary, Dr Herbert A Potts, Chicago, delegate, Dr Eugene S Talbott, Chicago, alternate, Dr George V I Brown, Milwaukee

Dr William Wayne Babcock, Philadelphia, read a paper on "Injuries of Cranial Nerves from Operations on the Jaws and Neck"

Dr V H Kazanjian, Boston, read a paper on "Treatment of Nasal Deformities, with Especial Reference to Prosthetic Restoration of the Nose"

Dr Robert H Ivy, Philadelphia, read a paper on "Repair of Acquired Defects of the Face"

Dr Vilray Papin Blair, St Louis, read a paper on "Nasal Deformities Associated with Congenital Cleft of the Lip"

Dr George C Schaeffer, Columbus, Ohio, read a paper on "Some Plastic Problems and Their Solution"

These five papers were discussed by Drs Carl Beck, Chicago, W T Coughlin, St Louis, Harry P Ritchie, St Paul, Truman W Brophy, Chicago, George V I Brown, Milwaukee, Wis, Frederick B Moorehead, Chicago, V H Kazanjian, Boston, Robert H Ivy, Philadelphia, and George C Schaeffer, Columbus, Ohio

## SECTION ON NERVOUS AND MENTAL DISEASES

### WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr Walter F Schaller, San Francisco

Dr Walter F Schaller, San Francisco, read the chairman's address, entitled "Pathologic Physiology of the Sympathetic Nervous System"

The chairman appointed Dr William A Jones, Minneapolis, to serve on the Executive Committee, Dr Peter Bassoe, Chicago, being absent

Dr Lewis J Pollock, Chicago, read a paper on "Some Cases Showing Increased Muscle Movements" Discussed by Drs Walter Timme, New York, S Philip Goodhart, New York, Josephine A Jackson, Pasadena, Calif, and Lewis J Pollock, Chicago

Dr William House, Portland, Ore, read a paper on "Non-syphilitic Psychoses in Syphilitic Persons" Discussed by Drs Walter F Schaller, San Francisco, Julius Grinker, Chicago, William A Jones, Minneapolis, Lesser Kauffman, Buffalo, Karl A Menninger, Topeka, Kan, Richard Dewey, Los Angeles, and William House, Portland, Ore

Dr Cornelius C Wholey, Pittsburgh, read a paper on "The Mental and Nervous Side of Narcotic Drug Addictions" Discussed by Drs Meyer Solomon, Chicago, Lydia L Poage, Cincinnati, Walter H Conley, New York, Josephine A Jackson, Pasadena, Calif, S A Dunham, Buffalo, and Cornelius C Wholey, Pittsburgh

The President, Dr William Allen Pusey, the retiring President, Dr Ray Lyman Wilbur, and the Speaker of the House, Dr Frederick C Warnshuis, addressed the section

Dr George Martyn, Los Angeles, read a paper on "Significance of Lumbosacral Pain" Discussed by Drs O S Wightman, New York, and George Martyn, Los Angeles

Dr Edward Livingston Hunt, New York, read a paper on 'Parkinsonian Syndrome in Encephalitis"

Dr S Philip Goodhart, New York, read a paper on "Residua and Sequelae of Epidemic Encephalitis, with Especial Reference to Psychotic Symptoms"

These two papers were discussed by Drs Karl Petren, Lund, Sweden, Meyer Solomon, Chicago, William Ravine, Cincinnati, and S Philip Goodhart, New York

### THURSDAY, JUNE 12—MORNING

The meeting was called to order at 9 15 by the chairman, Dr Walter F Schaller, San Francisco

Dr Milton B Lennon, San Francisco, read a paper on 'The Traumatized Neurotic" Discussed by Drs David S Booth, St Louis, P H Hourigan, Buffalo, William A Jones, Minneapolis, Hugh T Patrick, Chicago, Meyer Solomon, Chicago, John Leeming, Chicago, Lesser Kauffman, Buffalo, and Milton B Lennon, San Francisco

Drs Angus W Morrison and H S Diehl, Minneapolis, presented a paper on "Studies on Mental Hygiene Needs of Freshman University Students Preliminary Report" Discussed by Drs Walter F Schaller, San Francisco, William A Jones, Minneapolis, Karl A Menninger, Topeka, Kan, Lesser Kauffman, Buffalo, Milton B Lennon, San Francisco, Meyer Solomon, Chicago, and Angus W Morrison, Minneapolis

Dr Edmund Jacobson, Chicago, read a paper on "The Physiology of Globus Hystericus and of Related Conditions," and presented four patients, two illustrating globus hystericus and two esophageal spasm Discussed by Drs David S Booth, St Louis, Josephine A Jackson, Pasadena, Calif, and Edmund Jacobson, Chicago

Dr Alfred W Adson, Rochester, Minn, read a paper on "Glossopharyngeal Neuralgia and Its Treatment" Discussed by Drs Howard C Naffziger, San Francisco, Charles R Ball, St Paul, A L Skoog, Kansas City, Mo, George A Moleen, Denver and Alfred W Adson, Rochester, Minn

Dr H H Drysdale, Cleveland, read a paper on "A Neglected Factor in the Prevention of Apoplexy" Discussed by Drs George A Moleen, Denver, and H H Drysdale, Cleveland

Dr Karl A Menninger, Topeka, Kan, read a paper on "Hereditosyphilitic Cranial Osteoporosis" Discussed by Drs A L Skoog, Kansas City, Mo, and Karl A Menninger, Topeka, Kan

### FRIDAY, JUNE 13—MORNING

The meeting was called to order at 9 20 by the chairman

The chairman appointed Dr Henry G Brainerd, Los Angeles, to serve on the Executive Committee, Dr Walter Timme, New York, being absent

The following officers were elected chairman, Dr Edwin G Zabriskie, New York, vice chairman, Dr James B Ayer, Boston, secretary, Dr Lewis J Pollock, Chicago

The following papers were read as a symposium on "The Treatment of Neurosyphilis"

Dr Loyd Thompson, Hot Springs National Park, Ark "Neurosyphilis Six or More Years After Treatment"

Dr Franklin G Ebaugh, Philadelphia "The Use of Tryparsamide in Cases of General Paralysis Results of the First Year's Experience"

Dr Walter I Lillie, Rochester, Minn "Ophthalmologic Observations in Tryparsamide Therapy of Central Nervous System Syphilis"

Drs Joseph Earle Moore, Harry M Robinson and Richard S Lyman, Baltimore "The Results of Tryparsamide Therapy in Syphilis"

Drs Harry C Solomon and Henry R Viets, Boston "A Comparison of Tryparsamide and Other Drugs in the Treatment of Neurosyphilis"

These five papers were discussed by Drs Walter F Schaller, San Francisco, James B Ayer, Boston, J H Stokes, Rochester, Minn, Lee Cady, St Louis, A L Skoog, Kansas City, Mo, Charles F Read, Chicago, Clarence A Neymann, Chicago, Julius Grinker, Chicago, Franklin G Ebaugh, Philadelphia, Walter I Lillie, Rochester, Minn, Joseph Earle Moore, Baltimore, and Harry C Solomon, Boston

Dr Charles R Ball St Paul, moved that this section recommend to the Rockefeller Institute that tryparsamide either be released or be not released at this time for general use Seconded

Dr G W Hall, Chicago, moved to lay the motion on the table Seconded and carried

## SECTION ON DERMATOLOGY AND SYPHILOLOGY

### WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9 10 by the chairman, Dr Harold N Cole, Cleveland

Dr Harold N Cole, Cleveland, read the chairman's address, entitled "The Dermatoses Due to Cosmetics," after which he presented the resolution on cosmetics mentioned in the minutes of the House of Delegates, and moved its adoption

This resolution was discussed by Dr Howard Fox, New York Dr Cole's motion to adopt was then put to a vote and unanimously carried

The following papers were read as a symposium on "Syphilis"

Drs Alan M Chesney and Jarold E Kemp, Baltimore "The Incidence of Spirochaeta Pallida in the Cerebrospinal Fluid During the Early Stage of Syphilis"

Dr James R Driver, Cleveland 'Reinfection in Syphilis"

Dr Karl G Zwick, Cincinnati "Microscopic Study of Mercury Absorption from Skin"

Dr George W Raiziss, Philadelphia "Chemotherapy of Sulpharsphenamin"

Drs Udo J Wile and Lester M Wieder, Ann Arbor, Mich "Tryparsamide in the Treatment of Neurosyphilis"

Drs John H Stokes and Loren W Shafter, Rochester, Minn "Results Secured by Standard Methods of Treatment in Four Hundred and Five Cases of Neurosyphilis"

These six papers were discussed by Drs Martin F Engman, St Louis Walter J Highman New York, Henry H Hazen, Washington, D C, Augustus Ravogli Cincinnati, Joseph Grindon, St Louis, J E Moore, Baltimore Charles F Read Chicago, Julius Grinker, Chicago, Jeffrey C Michael,

few moments in which to report on the application of the radiotherm in urology, and a letter from Dr Herluf G Lund, St Louis, requesting a few moments in which to present two very interesting specimens to the section

Dr William F Braasch, Rochester, Minn, moved that five minutes be granted to each during the sessions Seconded and carried

Dr C W Collings, New York, described the radiotherm

THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2 10 by the chairman, Dr Herman L Kretschmer, Chicago

Dr Herman L Kretschmer, Chicago, read the chairman's address, entitled "Graduate Teaching in Urology"

The chairman read a telegram from Dr W Calhoun Stirling, Winston-Salem, N C, expressing his regret at his inability to attend the meeting and read his paper

The following papers were presented as a symposium on "Hematuria"

Dr Arthur L Chute, Boston "Importance of Hematuria as a Symptom"

Drs Edwin A Locke and George R Minot, Boston "Hematuria as a Symptom of Systemic Disease"

Dr Leon Herman, Philadelphia "Renal Hematuria"

Dr George R Livermore, Memphis, Tenn "Possible Causes of Renal Bleeding Which Cannot Be Accurately Diagnosed"

Dr B A Thomas, Philadelphia "Hematuria of Bladder Origin"

Dr Walter H McNeill, Jr, New York "Hematuria of Prostatic and Urethral Origin"

The chairman appointed Dr H C Bumpus, Rochester, Minn, to serve on the Executive Committee, in the absence of Dr Henry G Bugbee, New York

These six papers were discussed by Drs Bransford Lewis, St Louis, H C Bumpus, Rochester, Minn, Daniel N Eisendrath, Chicago, W E Stevens, San Francisco, A W Nelson, Cincinnati, James A Gardner, Buffalo, E O Smith, Cincinnati, W G Schulte, Salt Lake City, P E McCown, Indianapolis, Terry M Townsend, New York, W B Dakin, Los Angeles, Herman L Kretschmer, Chicago, Arthur L Chute, Boston, Leon Herman, Philadelphia, George R Livermore, Memphis, Tenn, B A Thomas, Philadelphia, and Walter H McNeill, Jr, New York

Dr H G Lund, St Louis, presented specimens and photographs

FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Herman L Kretschmer, Chicago

The following officers were elected chairman, Dr John T Geraghty, Baltimore, vice chairman, Dr Robert V Day, Los Angeles

Dr Albert J Scholl, Rochester, Minn, read a paper on "Tumors Involving the Dome of the Bladder"

Dr Hermon C Bumpus, Rochester, Minn, read a paper on "Modern Methods and Results of Treating Malignancy of the Bladder"

Dr H W E Walther, New Orleans, read a paper on "Diathermy in Urology"

These three papers were discussed by Drs B C Corbus, Chicago, Gustav Kolischer, Chicago, George Gilbert Smith, Boston, B A Thomas, Philadelphia, Vincent J O'Conor, Chicago, Robert H Herbst, Chicago, W B Dakin, Los Angeles, Arthur L Chute, Boston, Daniel N Eisendrath, Chicago, James A Gardner, Buffalo, Herman L Kretschmer, Chicago, Hermon C Bumpus, Rochester, Minn, and H W E Walther, New Orleans

Drs William E Stevens and Elizabeth Arthurs, San Francisco, presented a paper on "The Female Bladder" Discussed by Drs Robert H Herbst, Chicago, Daniel N Eisendrath, Chicago, Victor D Lespinasse, Chicago, Bransford Lewis, St Louis, P E McCown, Indianapolis, James A Gardner, Buffalo, and William E Stevens, San Francisco

Drs Robert V Day and Harry W Martin, Los Angeles, presented a paper on "Diverticula of the Urinary Bladder"

Dr Frederick T Lau, New York, presented a paper on "Recurrence of Stone in the Urinary Tract"

These two papers were discussed by Drs Daniel N Eisendrath, Chicago, Robert H Herbst, Chicago, B A Thomas, Philadelphia, P E McCown, Indianapolis, Victor D Lespinasse, Chicago, Herman L Kretschmer, Chicago, Robert V Day, Los Angeles, and Frederick T Lau, New York

## SECTION ON ORTHOPEDIC SURGERY

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Henry B Thomas, Chicago

Dr G D Marshall, Kokomo, Ind, read a paper on "Claw foot Operation for, and New Instruments to Shorten Time of, Operation" Discussed by Drs F J Gaenslen, Milwaukee C B Francisco, Kansas City, Mo, G I Bauman, Cleveland, Edwin W Ryerson, Chicago, and G D Marshall, Kokomo, Ind

Dr M L Klinefelter, St Louis, read a paper on "Dislocations of and Fractures Involving the Knee Joint" Discussed by Drs Kellogg Speed, Chicago, W C Campbell, Memphis, Tenn, H Winnett Orr, Lincoln, Neb, and M L Klinefelter, St Louis

Dr Philip D Wilson, Boston, read a paper on "Seven Cases of Displacement of the Upper Epiphysis of the Femur Treated by Open Reduction" Discussed by Drs W R Cubbins, Chicago, Willis C Campbell, Memphis, Tenn, Frank D Dickson, Kansas City, Mo, Charles LeRoy Lowman, Los Angeles, Dennis W Crile, Chicago, M L Klinefelter, St Louis, and Philip D Wilson, Boston

Dr Frank D Dickson, Kansas City, Mo, read a paper on "The Treatment of Spastic Paralysis, with Special Reference to the Stoffel Operation" Discussed by Drs A Bruce Gill, Philadelphia, R O Ritter, Chicago, J S Speed, Memphis, Tenn, J F McDonald, Omaha, G I Bauman, Cleveland, and Frank D Dickson, Kansas City, Mo

Dr Albert E Freiberg, Cincinnati, read a paper on "Again the Operation for Hallux Valgus" Discussed by Drs John L Porter, Chicago, Melvin S Henderson, Rochester, Minn, and Albert E Freiberg, Cincinnati

The President, Dr William Allen Pusey, and the retiring President, Dr Ray Lyman Wilbur, addressed the section

Dr Arthur Steindler, Iowa City, read a paper on "Synovectomy and Fat Pad Removal of the Knee" Discussed by Drs Nathaniel Allison, Boston, Frank D Dickson, Kansas City, Mo, and Arthur Steindler, Iowa City

Dr Nathaniel Allison, Boston, read a paper on "Tuberculosis of the Knee The Importance of Early Diagnosis" Discussed by Drs E W Ryerson, Chicago, Melvin S Henderson, Rochester, Minn, and Nathaniel Allison, Boston

Dr Richard Kovacs, New York, read a paper on "Physiotherapy in Orthopedic Surgery" Discussed by Drs Charlton Wallace, New York, John P Lord, Omaha, and Benjamin Koven, Brooklyn

THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman, Dr Henry B Thomas, Chicago

Dr J S Speed, Memphis, Tenn, read a paper on "Synovectomy of the Knee Joint" Discussed by Drs George de Tarnowsky, Chicago, Albert E Freiberg, Cincinnati, and J S Speed, Memphis, Tenn

Drs H Winnett Orr and J E M Thomson, Lincoln, Neb, presented a paper on "Maintaining Length and Position in the Treatment of Compound Fractures" Discussed by Drs F G Dyas, Chicago, F. J Gaenslen, Milwaukee, John P Lord, Omaha, P P Grosso, Chicago, and J E M Thomson, Lincoln, Neb

Dr Walter G Stern, Cleveland, read a paper on "Conservative Treatment of Compound Fractures" Discussed by Drs T Turner Thomas, Philadelphia, Karl A Meyer, Chicago, R H McKay, Akron, Ohio, Edward J Lewis, Chicago, G D Marshall, Kokomo, Ind, and Walter G Stern, Cleveland

Dr Henry Bascom Thomas, Chicago, read the chairman's address, entitled "Orthopedic Preventive Medicine" No discussion

Dr E G Brackett, Boston, read a paper on "Injuries to the Low Back in Their Relations to Industrial Accidents" Discussed by Drs John L Porter, Chicago, Paul B Magnuson, Chicago, Robert Carothers, Cincinnati, G I Bauman, Cleveland, Charles M Jacobs, Chicago, H R Allen, Indianapolis, and E G Brackett, Boston

Dr Barney Brooks, St Louis, read a paper on "The Diagnosis and Treatment of Vascular Diseases of the Extremities" Discussed by Drs Mont R Reid, Cincinnati, Victor D Lespinasse, Chicago, Leo Eloesser, San Francisco, H R Allen, Indianapolis, and Barney Brooks, St Louis

Dr R M Little, Albany, N Y, read a paper on "Industrial Rehabilitation" Discussed by Dr Harry E Mock, Chicago

FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 15 by the chairman, Dr Henry B Thomas, Chicago

The following officers were elected chairman, Dr F J Gaenslen, Milwaukee, vice chairman, Dr Arthur Bruce Gill, Philadelphia, secretary, Dr James Archer O'Reilly, St Louis, delegate, H Winnett Orr, Lincoln, Neb, alternate, Dr Melvin S Henderson, Rochester, Minn

Dr Walter G Stern, Cleveland, moved that the secretary of the section be instructed to get in touch with the Secretary of the American Medical Association to see whether a list of men interested in orthopedic surgery may be put at the disposal of the men who register and are interested in this work Seconded and carried

Dr Frederick C Kidner, Detroit, read a paper on "Kohler s Disease of the Tarsal-Scaphoid" Discussed by Drs Philip Lewin, Chicago, Charles LeRoy Lowman, Los Angeles, and Frederick C Kidner, Detroit

Drs Robert B Cofield and Karl F Little, Cincinnati, presented a paper on "Syphilitic Spondylitis" Discussed by Drs E J Berkheiser, Chicago, James Archer O'Reilly, St Louis, Karl G Zwick, Cincinnati, W K West, Oklahoma City, R Wallace Billington, Nashville, Tenn, and Robert B Cofield, Cincinnati

Dr A Bruce Gill, Philadelphia read a paper on "Fibrous Ankylosis of the Hand Due to Prolonged Swelling" Discussed by Drs Barney Brooks, St Louis, Robert T Morris, New York, Kellogg Speed, Chicago, Walter G Stern Cleveland, Willis C Campbell, Memphis, Tenn, H R Allen, Indianapolis, and A Bruce Gill, Philadelphia

Dr Henry W Myerding, Rochester, Minn, read a paper on "Giant Cell Tumors of the Long Bones" Discussed by Drs D B Phemister, Chicago, E W Beasley, Chicago, and Henry W Myerding, Rochester, Minn

Dr Frank R Ober, Boston, read a paper on "Posterior Arthrotomy of the Hip Joint" No discussion

Dr R Wallace Billington, Nashville, Tenn, read a paper on 'Spondylitis Following Cerebrospinal Meningitis" No discussion

Dr Allen D Smith, New York, read a paper on "The Diagnosis of Early Joint Tuberculosis" Discussed by Drs Edward J Lewis, Chicago, and Allan D Smith, New York

## SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

WEDNESDAY, JUNE 11—AFTERNOON

The meeting was called to order at 2 15 by the chairman, Dr Franklin W White, Boston

Dr Franklin W White, Boston, read the chairman s address, entitled 'The Modern Examination of a Patient with Chronic Intestinal Disease"

Dr Anthony Bassler, New York, read a paper on "Quantitative Test of Digestive Pancreatic Activity' Discussed by Drs Burrill B Crohn, New York, Daniel N Silverman, New Orleans, and Anthony Bassler, New York

Dr Sanford M Rosenthal, Baltimore, read a paper on "Phenoltetrachlorphthalein Test of Liver Function Studies with Author's Method"

Drs George Morris Piersol and H L Bockus, Philadelphia, presented a paper on "Comparative Studies in Liver Function by Some of the Later Methods"

These two papers were discussed by Drs B W Fontaine, Memphis, Tenn, Frank D Gorham, St Louis, T G Schnabel, Philadelphia, A A Jones, Buffalo, Waltman Walters, Rochester, Minn, Julius Friedenwald, Baltimore, Sanford M Rosenthal, Baltimore, and H L Bockus, Philadelphia

Dr Henry Wald Bettman, Cincinnati, read a paper on "Diagnostic Errors Leading to Uncalled for Appendectomy" Discussed by Drs David Riesman, Philadelphia, Anthony Bassler New York, and Henry Wald Bettman, Cincinnati

Dr Francis Lowell Burnett, Boston, read a paper on 'Faulty Food Factors and Atonic Constipation" Discussed by Dr Leon Bloch, Chicago

Dr J F Montague, New York, read a paper on "The Unrecognized Clinical Importance of Anal Pruritus" Discussed by Drs R W Jackson, Fall River, Mass, L J Hirschman, Detroit, and J F Montague, New York

THURSDAY, JUNE 12—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman

Dr W Howard Barber, New York, read a paper on 'Motility of the Stomach After Local Resection for Gastric Ulcer" Discussed by Drs L T LeWald, New York, and W Howard Barber, New York

Dr W C MacCarty, Rochester, Minn, read a paper on "Duodenal Ulcers' Discussed by Drs George B Eusterman, Rochester, Minn, Sidney Strauss, Chicago, R D Carman, Rochester, Minn, and W C MacCarty, Rochester, Minn

Dr Horace W Soper, St Louis, read a paper on "A Clinical Study of the Effects of Magnesium Sulphate in Biliary Drainage" Discussed by Drs B B Vincent Lyon, Philadelphia, Max Dreyfoos, Cincinnati, R B Oleson, Chicago, Julius Friedenwald, Baltimore, Anthony Bassler, New York, and Horace W Soper, St Louis

Drs R D Carman and V S Counseller, Rochester, Minn, presented a paper on "Roentgenologic Diagnosis of Cholecystic Disease by the Graham Method" Discussed by Drs L G Cole, New York, L T LeWald, New York, and R D Carman, Rochester, Minn

Dr L B Morrison, Boston, read a paper on "Diaphragmatic Hernia, Especially Hernia of the Stomach Through the Esophageal Hiatus" Discussed by Drs Milton M Portis, Chicago and Daniel N Silvermann, New Orleans

Dr Julius Friedenwald, Baltimore, read a paper on "Some Observations on the Presence of Free Hydrochloric Acid in the Gastric Contents in Carcinoma of the Stomach" Discussed by Dr Seale Harris, Birmingham, Ala

Dr Elmer L Eggleston, Battle Creek, Mich, read a paper on 'Gastric Secretory Disturbances" Discussed by Drs Clement R Jones Pittsburgh, A C Ivy, Chicago, Julius Friedenwald, Baltimore, Franklin W White, Boston, and Elmer L Eggleston, Battle Creek, Mich

FRIDAY, JUNE 13—AFTERNOON

The meeting was called to order at 2 o'clock by the chairman

The following officers were elected chairman, Dr Ralph W Jackson Fall River, Mass, vice chairman Dr Sidney K Simon New Orleans secretary, Dr Frank Smithies, Chicago, delegate, Dr George B Evans, Dayton, Ohio, alternate, Dr Walter A Bastedo New York

Dr Jerome M Lynch, New York, read a paper on "Ileocecal Tuberculosis from a Surgical Standpoint" Discussed by Drs J Rawson Pennington, Chicago, Frank Smithies, Chicago, Walter A Bastedo New York, Russell S Boles, Philadelphia, and Jerome M Lynch, New York

Dr Burrill B Crohn, New York, read a paper on 'The Pathology and Therapy of Chronic Ulcerative Colitis' Discussed by Drs George C Mizell Atlanta, Ga, Sidney V Portis, Chicago, Frank Smithies, Chicago, Sidney K Simon,

New Orleans, Jerome M Lynch, New York, Anthony Bassler, New York, R W Jackson, Fall River, Mass, and Burrill B Crohn, New York

Dr John Bryant, Boston, read a paper on "A Diet for Chronic Intestinal Disease" Discussed by Drs Walter A Bastedo, New York, and John Bryant, Boston

Dr George R Cowgill, New Haven, Conn, read a paper on "Vitamin B and Gastric Motility" Discussed by Drs A B Luckhardt, Chicago, and George R Cowgill, New Haven, Conn

Dr Charles G Heyd, New York, read a paper on "Changes in the Liver Associated with Infection of the Appendix" Discussed by Drs C A Elliott, Chicago, John A Lichty, Clifton Springs, N Y, and Charles G Heyd, New York

Dr Curtice Rosser, Dallas, Texas, read a paper on "Rectal Pathology in the Negro—Incidence and Peculiarities" Discussed by Drs Rudolph Matas, New Orleans, Joseph F Montague, New York, and E G Martin, Detroit

Dr F Gregory Connell, Oshkosh, Wis, read a paper on "Intestinal Protozoan Parasites" Discussed by Drs J M Blackford, Seattle, Frank Smithies, Chicago, and George A Gray, San Jose, Calif

## SECTION ON MISCELLANEOUS TOPICS

### MEETING ON ANESTHESIA

WEDNESDAY, JUNE 11—MORNING

The meeting was called to order at 9 30 by the chairman, Dr James T Gwathmey, New York

Dr James T Gwathmey, New York, read the chairman's address, entitled "Painless Childbirth by Synergistic Method"

Dr A E Guedel, Indianapolis, read a paper on "Metabolism and Reflex Irritability in General Anesthesia" No discussion

Drs Herbert Willy Meyer, New York, and Burtis F Robbins, Salt Lake City, presented "A Report on Colonic Anesthesia" No discussion

The following papers were read as a symposium on "Ethylene"

Dr Arno B Luckhardt, Chicago "Introductory Remarks"

Dr C D Leake, Madison, Wis "Blood Changes Under Ethylene-Oxygen Anesthesia"

Dr Arthur Dean Bevan, Chicago "Ethylene-Oxygen Anesthesia in General Surgery"

Dr N Sproat Heaney, Chicago "Ethylene-Oxygen Anesthesia in Obstetrics"

Dr M Ecker, New York "Ethylene-Oxygen Anesthesia in Dentistry"

These five papers were discussed by Drs Carey Culbertson, Chicago, Herman L Kretchmer, Chicago, Willard Bartlett, St Louis, Isabella C Herb, Oak Park, Ill, J S Horslev, Richmond, Va, E D Chipman, Washington, D C, Arno B Luckhardt, Chicago, C D Leake, Madison, Wis, N S Heaney, Chicago, and M Ecker, New York

The President, Dr William Allen Pusey, the retiring President, Dr Ray Lyman Wilbur, and the Speaker of the House of Delegates, Dr Frederick C Warnshuis, addressed the section

Dr F H McMechan, Avon Lake, Ohio, moved a rising vote of thanks to the speakers

### MEETING ON RADIOLOGY

THURSDAY, JUNE 12—MORNING

The meeting was called to order at 9 o'clock by the chairman, Dr W F Manges, Philadelphia

Dr W F Manges, Philadelphia, read the chairman's address No discussion

Dr P M Hickey, Ann Arbor, Mich, read a paper on "Roentgen-Ray Studies in Hydrocephalus" Discussed by Drs George L Davenport, Chicago, Henry K Pancoast, Philadelphia, and P M Hickey, Ann Arbor

Dr W Walter Wasson, Denver, read a paper on "A Radiographic Study of the Infant's Chest as Seen at Birth" Discussed by Drs L R Sante and Edwin P Lehman, St Louis, presented a paper on "Radiographic Localization of Lung Abscess with the Hirtz Compass Preliminary Report" Discussed by Drs Edwin S Blaine, Chicago, W H Stewart, New York, David R Bowen, Philadelphia, P M Hickey, Ann Arbor, Mich, E P Lehman, St Louis, and L R Sante, St Louis

Dr Henry K Pancoast, Philadelphia, read a paper on "The Importance of Careful Roentgen-Ray Investigations of Apical Chest Tumors" Discussed by Drs William A Evans, Detroit, Leon T LeWald, New York, and Henry K Pancoast, Philadelphia

Dr George W Holmes, Boston, read a paper on "Some Observations on the Use of the Roentgen Rays in the Diagnosis of Pericarditis" Discussed by Drs Paul Dudley White, Boston, H J Ullman, Santa Barbara, Calif, and George W Holmes, Boston

Dr Louis Gregory Cole, New York, read a paper on the "Relative Value of Medical and Surgical Treatment in Gastric Ulcer" Discussed by Drs R I Rizer, Minneapolis, Milton M Portis, Chicago, C F Tenney, New York, and Louis Gregory Cole, New York

Dr Leon T LeWald, New York, read a paper on "A Study of Thirty-One Cases of Complete Transposition of the Viscera, with Remarks on Etiology" Discussed by Drs Edwin S Blaine, Chicago, and Leon T LeWald, New York

The attendance at this meeting, as announced by the secretary, was 362

FRIDAY, JUNE 13—MORNING

The meeting was called to order at 9 10 by the chairman, Dr W F Manges, Philadelphia

Drs A C Ivy and B H Orndoff, Chicago, read a paper on "Studies on the Effect of Roentgen Rays on Glandular Activity, The Effect on Gastric Secretion of Exposure of the Abdominal and Thoracic Areas to Roentgen Rays, A Note on Roentgen Cachexia" Discussed by Drs Charles L Martin, Dallas, Texas, Claude Regaud, Paris, France, A J Carlson, Chicago, and A C Ivy, Chicago

Dr A J Desjardins, Rochester, Minn, read a paper on "The Reaction of Different Types of Abdominal Tumors to Irradiation" Discussed by Drs George E Pfahler, Philadelphia, I S Trostler, Chicago, and A U Desjardins, Rochester, Minn

Dr Henry Schmitz, Chicago, read a paper on "End-Results Observed in Carcinomas of the Uterine Cervix with Radium and Roentgen-Ray Therapy" Discussed by Drs John F McCullough, Pittsburgh, and H H Bowing, Rochester, Minn

Dr Albert Soiland, Los Angeles, read a paper on "The Use of Radium for Intra-Oral Cancer" Discussed by Drs E H Skinner, Kansas City, Mo, and Edwin C Ernst, St Louis

Drs A C Christie, Thomas A Groover and E A Merritt, Washington, D C, presented a paper on "The Treatment of Hyperthyroidism by the Roentgen Ray Results in One Hundred and Twenty-Five Cases" Discussed by Drs Robert G Allison, Minneapolis, R I Rizer, Minneapolis, W F Manges, Philadelphia, H J Ullmann, Santa Barbara, Calif, and A C Christie, Washington, D C

Dr W W Watkins, Phoenix, Arizona, read a paper on "The Pathologic Basis for Irradiation of Tonsils" Discussed by Drs Edwin S Blaine, Chicago, Sanford M Withers, Denver, H J Ullmann, Santa Barbara, Calif, I S Trostler, Chicago, Edward E Mansur, Jefferson City, Mo, W F Manges, Philadelphia, W P Whittington, Asheville, N C, F V Martin, Michigan City, Ind, and W W Watkins, Phoenix, Ariz

Dr J Shelton Horsley, Richmond, Va, chairman of the Council on Scientific Assembly, addressed the section

Dr I S Trostler, Chicago, moved that a rising vote of thanks be accorded Dr Albert Soiland, Los Angeles, for his efforts toward establishing a section on roentgenology Seconded and carried

## THE SCIENTIFIC EXHIBIT

The Scientific Exhibit of the Chicago Session was conceded to be the best and largest ever held The location was ideal in respect both to light and to space, and, as the Committee on Awards stated, 'the general arrangement, neatness, lighting and freedom from confusion should serve as a model for future exhibits" A distinct departure from preceding exhibits was the creation of special committees to demonstrate certain practical applications of pathology and medicine The Committee on Morbid Anatomy, composed of local pathologists, demonstrated fresh material received daily from the Chicago hospitals and the bureau of animal industry at the stock yards Leaning over the counters of this booth could always be found a group of interested physicians listening to the explanations of the pathologists Likewise the committee on cardiology found ready response to the exhibit on the pathology of the heart and the clinical interpretation of various clinical instruments used in heart study Practically every exhibit had a competent demonstrator present at all times, and in this way the charts, posters and displayed material formed the basis of many an interesting discourse on newer advances in medicine The space for the Scientific Exhibit originally allotted could not accommodate all the material worthy of space, and therefore a Scientific Exhibit Annex was installed some 300 feet east on the pier The total number of exhibits was sixty-six, some booths containing the work of as many as fourteen people Whenever possible, the material presented was credited to the individual and not merely to an institution The number of individuals who participated in the Scientific Exhibit was 140 In previous reviews it has been customary to describe the outstanding exhibits Owing to the large number and general excellence of this year's exhibits, however, space does not permit such a description

## REPORT OF COMMITTEE ON AWARDS

### Scientific Exhibit

The Committee on Awards reports

The gold medal to E J Judah, Mayo Clinic, because of (*a*) originality, (*b*) method of presentation of museum specimens, and (*c*) completeness of the exhibit demonstrating thoroughly the pathology of gallbladder disease

The silver medal to W W Duke, Kansas City, because of the completeness of the exhibit on "allergy"

The bronze medal to Benjamin Terry, Nashville, for the effort involved in his personal demonstration of pathologic material carrying a message to the mass of physicians

The committee also awards the certificate of merit to the following

Evarts Graham, Warren H Cole and Grover H Copher of the Washington University Medical School of St Louis, Mo, for visualization of the gallbladder

Indiana Child Hygiene Division, Board of Health, for exhibit of child health activities

Ralph Major, University of Kansas, for study of effect of methylguanidin on blood pressure

Northwestern University for exhibit of museum specimens illustrating important lesions of (*a*) heart and blood vessels, (*b*) gastro-intestinal tract, (*c*) kidney, and (*d*) the female sexual organs

Section on Dermatology and Syphilology of the University of Pennsylvania for the excellence of the photographic reproductions

The committee desires to commend the general arrangement, neatness, lighting and freedom from confusion of the scientific exhibit, and recommends it as a model for future exhibits The committee has been particularly impressed by the fact that there have been competent demonstrators in charge of the respective exhibits and that the legends have been well printed, making the exhibits more valuable to the visitors

The committee appreciated the work of the two special committees, the committee on cardiology and the committee on morbid anatomy It feels that these features (which were not open to awards) deserve special praise The committee would like to see such features continue

The director of the scientific exhibit, Dr Paul N Leech, acting for the committee of the Board of Trustees, deserves unstinted praise from the committee for the part he has played in the general excellence of the exhibit

URBAN MAES, Chairman
JAMES EWING
ROGER S MORRIS

## THE MOTION PICTURE THEATER

The motion picture theater program, run in connection with the Scientific Exhibit, operated continuously during the session hours from noon to 5 30 on Monday, from 9 to 5 30 on Tuesday, Wednesday and Thursday, and from 9 to 3 on Friday The motion picture theater was located just east of the Scientific Exhibit, and had accommodation for 1,000 people Thirty-five speakers were scheduled for sixty-nine periods, which were either of fifteen, thirty or forty-five minutes' duration So well did the speakers cooperate that the schedule was adhered to strictly all during the week except for a brief interruption Monday afternoon, due to the fault of installation of the projection apparatus One unusual feature of the program was the electric stethoscope, whereby 500 people in the audience were able to listen clearly to the various abnormal heart and lung sounds of one patient sitting on the stage The audience was generally about 750, though frequently there were audiences of a thousand or more

## REGISTRATION AT CHICAGO

The total registration at the Chicago Session was 7,819 Below are given two summaries, one by sections and one by states

### REGISTRATION BY SECTIONS

| | |
|---|---|
| Practice of Medicine | 2,685 |
| Surgery General and Abdominal | 1 528 |
| Ophthalmology | 439 |
| Obstetrics Gynecology and Abdominal Surgery | 445 |
| Laryngology Otology and Rhinology | 384 |
| Diseases of Children | 383 |
| Pharmacology and Therapeutics | 28 |
| Pathology and Physiology | 150 |
| Stomatology | 47 |
| Nervous and Mental Diseases | 187 |
| Dermatology and Syphilology | 146 |
| Preventive and Industrial Medicine and Public Health | 204 |
| Urology | 221 |
| Orthopedic Surgery | 126 |
| Gastro Enterology and Proctology | 101 |
| Meetings on radiology and anesthesia | 227 |
| Miscellaneous | 518 |
| Total | 7 819 |

### REGISTRATION BY STATES

| | | | |
|---|---|---|---|
| Alabama | 36 | Nevada | 5 |
| Arizona | 9 | New Hampshire | 7 |
| Arkansas | 35 | New Jersey | 27 |
| California | 122 | New Mexico | 11 |
| Colorado | 86 | New York | 265 |
| Connecticut | 25 | North Carolina | 23 |
| Delaware | 1 | North Dakota | 15 |
| District of Columbia | 47 | Ohio | 400 |
| Florida | 19 | Oklahoma | 55 |
| Georgia | 40 | Oregon | 20 |
| Idaho | 11 | Pennsylvania | 250 |
| Illinois | 3 224 | Rhode Island | 4 |
| Indiana | 473 | South Carolina | 12 |
| Iowa | 330 | South Dakota | 26 |
| Kansas | 80 | Tennessee | 103 |
| Kentucky | 108 | Texas | 152 |
| Louisiana | 46 | Utah | 18 |
| Maine | 7 | Vermont | 4 |
| Maryland | 47 | Virginia | 30 |
| Massachusetts | 91 | Washington | 34 |
| Michigan | 363 | West Virginia | 45 |
| Minnesota | 207 | Wisconsin | 407 |
| Mississippi | 32 | Wyoming | 7 |
| Missouri | 270 | Miscellaneous | 67 |
| Montana | 9 | | |
| Nebraska | 112 | Total | 7 819 |

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 21, 1924

## FAVORITE VEGETARIAN FOODS

Protein is the most important organic component of the tissues of the body It is an integral part of the protoplasm that forms the physical basis of the functions of living organisms Cells are continually being destroyed and reconstructed, a sort of wear and tear disintegration is going on in the body, and nutrition aims to make good the losses Obviously, fats and carbohydrates cannot replace the nitrogenous components and suffice to preserve the integrity of the tissues that are in this state of physiologic flux Hence, the dominant position that proteins have come to occupy in discussions on nutrition The pendulum of enthusiasm regarding the biologic significance of proteins has swung from one extreme to another Liebig inculcated the doctrine that the muscles do their mechanical work at the expense of the energy stored in them in the form of proteins, the latter inevitably attained an enormous importance in the light of such an hypothesis, particularly when muscular activity was concerned In recent years, since the untenability of the teachings of Liebig in respect to the sources of energy in muscular work has been established, there has been a tendency in some quarters to advise abstemiousness with respect to proteins Thus, we are told [1] that if for no other reason than that of economy, it is unpractical to make use of more protein than is necessary for the maintenance of the body in full health and vigor The richly albuminous foodstuffs are by far the most expensive, so the argument continues, and it is therefore sheer extravagance to squander the housekeeping money on a superabundance of protein

In all this debate through the years of changing opinion, there has been more or less tacit assumption that proteins are for the most part essentially of equal biologic value, whatever their source or their mode of preparation In the compilations of thousands of analyses of foods that have been published in the last thirty or forty years, the protein content has been "estimated" on the basis of the amount of nitrogen present, this element forming about 15 per cent of the albuminous substances Discussion has centered on quantities of nitrogen or (calculated) protein in foods, rarely on the quality of the protein constituents Of course, there have been exceptions to this almost universal procedure Differences in digestibility, and consequent alimentary availability of some protein substances, have long been recognized, and the artificial product gelatin, in particular, has been understood since the days of the Second Gelatin Commission in France to be "inadequate" as the sole source of nitrogen for the organism

Increasing knowledge of the amino-acid make-up of proteins, the indispensability of certain amino-acids for physiologic purposes, and the inability of the body to construct them anew has placed the protein factor in nutrition in a new light [2] An interesting application of this has arisen in connection with the study of certain legumes The latter have long occupied a preeminent place in the vegetarian dietary, in which they have been heralded as the carriers of unusual amounts of protein, in contrast to the cereal grains that are less rich in this foodstuff Peas and beans, for instance, are outstanding among foods of plant origin in their comparatively high content of protein It was a matter of surprise, therefore, several years ago, when Johns and his collaborators [3] in the Bureau of Chemistry, Washington, demonstrated convincingly that the navy bean yields comparatively little of the sulphur-containing amino-acid cystin, and that the latter must be supplied in some way if the proteins of beans are to be made adequate as the sole source of protein in the diet Jones and Murphy [4] have made essentially the same sort of observations in regard to the proteins of the common lentil, *Lens esculenta* This is probably one of the first plants brought under cultivation by man, and has been found in the ancient lake dwellings of St Peter's Island, Lake of Bienne, which are of the bronze age This seed is extensively used for food in all countries in which it is grown, and is popularly regarded as being very nutritious Although grown to a smaller extent in the United States than in many other countries, considerable quantities are imported annually

These legumes are not entirely devoid of dietary virtues They are a good and practical source of vitamin B, and lentils are apparently much richer in vitamin A than most other seeds have been found to be The proteins need only to be properly supplemented to place them in a category of more desirable protein nutrients The familiar combinations of pork and beans or of lentils and smoked beef represent

1 Hindhede, M Protein and Nutrition, London, 1913, p 3

2 McCollum, E V The Newer Knowledge of Nutrition, New York, 1922 Mendel, L B Nutrition The Chemistry of Life, New Haven, 1923

3 Johns, C O, and Finks A J Studies in Nutrition, II, The Role of Cystine in Nutrition as Exemplified by Nutrition Experiments with the Proteins of the Navy Bean, Phaseolus Vulgaris, J Biol Chem 41 379 (March) 1920

4 Jones, D B, and Murphy, J C Cystine Deficiency and Vitamin Content of the Lentil, Lens Esculenta Moench, J Biol Chem 59 243 (March) 1924

dietary wisdom acquired before the age of nutrition experiments in laboratories Nevertheless, it may be worth while to emphasize the latest dictum that, as man cannot live by bread alone, so he cannot survive on an exclusive regimen of legumes The latter are rendered far more digestible by thorough cooking—a fact too often unheeded, and they gain still further in nutritive value when they are provided with suitable companionship in the day's menu

## ESSENTIAL AMINO-ACIDS

In the physiology of nutrition of the present day, the proteins have acquired a significance quite different from that attached to them a generation ago They are no longer referred to merely as the indispensable sources of nitrogen in the diet—as highly complex nitrogenous nutrients that somehow are transformed and reconstituted into the protein framework of the tissues of the body or distributed to the mobile fluids of the organism Today the proteins are evaluated primarily as sources of the well defined amino-acids that they yield The latter are the real "building stones," or units, out of which the bodily protein structures are put together As Mendel [1] has recently summarized the current view, many, if not all, of these amino-acids are essential for the construction of tissue and the regeneration of cellular losses In the proportion that any specific protein can furnish these constructive units, it may satisfy the nutritive needs of the body The efficiency of the individual protein in this respect must depend on the minimum of any indispensable amino-acid that it will yield, for it is now known that some of them cannot be synthesized anew by the animal organism If, for example, a protein or mixture of proteins comparatively deficient in their yield of the sulphur-containing amino-acid cystin is furnished alone to supply the body's nitrogenous requirements, the production of new, cystin-yielding molecules of protein will be limited by the amount that is available in the diet An excess need not be wasted, for it can be burned up like sugar or fat to provide energy, but new construction or growth is limited by the minimum of the essential unit

The demonstration that the organism depends on extraneous, or exogenous, sources of various nutritive factors has begun to make a profound impression on those who deal with the problems of maintaining the body in health and efficiency We are repeatedly being reminded that certain vitamins must be provided if nutritive welfare is to be conserved They cannot be manufactured by the cells or organs of the individual There are also inorganic elements that are needed without fail Shortage of lime or phosphorus must be averted at all times by an adequate supply, the requirement varying widely with the varying coexistent demands of growth, pregnancy or lactation, for example Iodin cannot be overlooked in the rationing of man, even though the need may be expressed in figures of seemingly insignificant smallness

Likewise, all of the essential amino-acids that cannot be synthesized de novo in the animal organism must be furnished in some potentially available form at least The experience of generations of mankind has shown that the danger of a failure in this respect is comparatively small, so long as customary dietary habits are pursued During the food discussions incident to the World War, stress was usually laid on the energy or calory value of the food, on the assumption that if any reasonable kind of combination of foods is consumed it will be found that, if taken in the amount necessary to afford the energy value, sufficient protein will be contained in it without further addition Natural foods, even potatoes, contain more protein than is often supposed to be the case, and no one is likely to consume pure sugar, starch or oil as the sole articles of diet Hence the slogan formulated by Bayliss, [2] "Take care of the calories, and the protein will take care of itself"

Nevertheless, the question of the "quality" factor in proteins is not so easily cast aside The recent discussions, for example, of the causation of pellagra revert both here and abroad to this protein feature It is imperative scientifically, and perhaps also for purely practical considerations, that the category of the truly indispensable amino-acids be established securely For several, the answer already seems to be definite Cystin, tryptophan and lysin must be furnished in some form in the diet by which they can become available How highly specific such needs are has been indicated by Lewis [3] and his co-workers, who have observed that even closely related chemical compounds cannot replace lysin in the intake Sure [4] has shown that tryptophan, which is indol-alanin, cannot be synthesized even when the components indol and alanin replace it in the diet And now Rose and Cox [5] of the University of Illinois have furnished evidence for the indispensability of histidin, likewise demonstrating that, contrary to earlier assumption, arginin and histidin are not mutually interchangeable in metabolism Such highly important information may seem at present to be far removed from the daily work of the physician, yet who shall deny that it may not become an essential of his routine information in the days to come? We still know all too little about the fundamental physiology of the body Perhaps our predecessors were wiser when they dignified this subject with the name of the "institutes of medicine"

1 Mendel, L. B Nutrition New Haven Yale University Press 1923

2 Bayliss W M The Physiology of Food and Economy in Diet London Longmans Green & Co 1917

3 Lewis H B McGinty D A and Marvel C S The Availability of Some Possible Precursors of Lysine for Lysine Synthesis J Biol Chem 59 13 (Feb) 1924

4 Sure B Amino Acids in Nutrition IX, The Role of Alanine and Indole in the Synthesis of Tryptophane by the Animal Organism, J Biol Chem 59 16 (Feb) 1924

5 Rose W C, and Cox G J The Relation of Arginine and Histidine to Growth J Biol Chem 59 14 (Feb) 1924

# Current Comment

## EXPLOITING THE CANCER SUFFERER

The week of the annual session of the American Medical Association was chosen as a propitious time to resurrect two discredited "cancer cures" At the beginning of the week, a Philadelphia paper announced that the cause of cancer had been discovered and that a treatment for the disease had been evolved that was producing remarkable results This particular piece of publicity dealt with the alleged cancer serum of Dr T J Glover of Toronto Glover's "serum" and its method of commercial exploitation were the subject of two or three articles that appeared in THE JOURNAL in the early part of 1921 It was there shown that a special committee appointed by the council of the Academy of Medicine of Toronto had investigated the Glover serum and reported that it was unable to find any evidence to show that the serum had produced a cure in any case definitely established as cancer About the same time, Dr Francis Carter Wood, director of cancer research at Columbia University, reported that he had subjected the Glover cancer serum to tests and had found not the slightest evidence that the product had any effect on the growth rate of tumors, nor had it cured any tumor The second "cancer cure" to be exploited last week was that of Dr William F Koch of Detroit Koch's nostrum was brought to the attention of the newspapers of the country by one C Everett Field in a statement made before the "American Association for the Study and Cure of Cancer," a newly formed organization that must not be confused with the well established American Society for the Control of Cancer Koch's cancer "cure" was dealt with in two articles that appeared in THE JOURNAL during February, 1921 It was there brought out that Dr Koch announced his alleged "cure" less than a year after he was graduated in medicine The committee appointed by the local medical society at that time made two reports, both unfavorable to the "cure" Since the committee reported, the Koch "cure" has been exploited by a "sanitarium" of which Koch is the "medical director" The "sanitarium" sends out to the public a typical "cancer cure" advertising booklet statements derogatory to the treatment of cancer by surgery, radium and roentgen rays, quotations (at least one of which is fictitious) from alleged authorities to support Koch's thesis, a statement of Koch's theory regarding cancer and some noninformative statements about the remedy, finally, the usual farrago of alleged case reports The publicity just given to these two discredited "cures" is producing the usual effect Sufferers from cancer both directly and through their physicians are frantically trying to learn whether there is any warrant for the claims so carelessly broadcast There may be things more heartless than that of exploiting the sufferers from so dreaded a disease as cancer, but at this time we do not think of them The most pernicious feature connected with such exploitation is that of awakening false hopes in the minds of the sufferers The mental anguish thus caused is just as great whether the "cure" is fraudulent in both its inception and its exploitation, or put forward by honest but misguided enthusiasts So far as the "cures" of William F Koch and T J Glover are concerned, it cannot be too earnestly asserted that neither one is in any sense established as either scientific or reliable

## U S SUPREME COURT ON MEDICINAL USE OF MALT LIQUORS

The constitutional principles underlying the regulation of the prescribing and dispensing of alcoholic liquors for medicinal purposes have been succinctly stated by the United States Supreme Court in two recent cases[1] Certain makers of malt beverages—beer, etc—brought suit to enjoin the Commissioner of Internal Revenue and other federal officers from enforcing the provisions of the amended National Prohibition Act, prohibiting the prescribing of beer for medicinal purposes The suit was based on the grounds that the Eighteenth Amendment authorizes Congress to prohibit traffic in only such intoxicating liquor as is intended for beverage purposes, and that the control of liquor for medicinal purposes is reserved to the several states, that while Congress can regulate the sale of medicinal liquor, it cannot prohibit medicinal liquor, that the prohibition of beer for medicinal purposes is neither an appropriate nor a reasonable exercise of the power conferred on Congress by the Eighteenth Amendment, but infringes on the legislative powers of the states The Supreme Court, however, denied all these claims and affirmed the decree of the court below, dismissing the suits

The Supreme Court points out, in its decision, that the Constitution confers on Congress the power to make all laws necessary and proper for carrying into effect all powers specifically vested in it Such implied power, the court says, is not limited to measures indispensably necessary, but Congress may adopt such means as it believes best adapted to the ends to be accomplished The court points out that the sale of beer for medicinal purposes may permit clandestine traffic and thus hamper and obstruct the enforcement of prohibition Furthermore, it is emphasized that the hearings before the enactment of the law did not show that beer possesses medicinal properties If Congress can prohibit the manufacture and sale of beer for medicinal purposes, it may presumably prohibit the sale of wines and whisky as well, and limit the sick to pure alcohol as a remedial agent In view of the extent to which the court concedes discretion with respect to these matters to Congress, it seems at least questionable whether the sick who are in need of alcoholic liquors in excess of the amounts now allowed by law can expect relief from the courts, if relief is to be obtained, it will probably have to come directly from Congress It will be well, therefore, for physicians to begin at once to look toward the introduction of reasonableness into the National Prohibition Act, so far as it relates to the medicinal use of beer and other

1 Everard's Breweries v Prohibition Director, Edward & John Burke, Ltd v Commissioner of Internal Revenue, decided, June 9 1924

liquors It was the opinion of the House of Delegates at the session just concluded that the medical profession should direct its efforts toward this end

## THE CHICAGO SESSION

When the American Medical Association met in Chicago in 1908, the total registration was 6,446, a record unequaled until the present session, at which 7,819 registered For this magnificent registration, credit must be given first to the local committee, which secured a high percentage of attendance of physicians in Chicago, and secondly to the great interest aroused by the numerous special features included in the 1924 session The experiment with the municipal pier, which involved making over the second tier into exhibit halls and meeting places for the sections, was quite successful Minor difficulties in the way of ventilation and the transmission of sound interfered in some instances with the larger halls, but the general satisfaction resultant on the ease of access to the exhibits and the ability to go rapidly from one meeting place to another outweighed such defects The Scientific Exhibit, as is reported elsewhere in this issue, far surpassed any previous one conducted by the Association Several special exhibits were the means of conveying to those interested the latest advances in the fields of pathology and in the prevention and relief of heart disease Commercial exhibitors were more than satisfied because of the large attendance and because the arrangements were such as to permit Fellows to pass through the exhibit on their way to attend the meetings of the Scientific Assembly The meetings of the scientific sections were attended by large numbers at all sessions Some of the halls provided seats for as many as 1,200 physicians, and yet were crowded to capacity Much credit is due especially to the local committee on arrangements for the excellent appointments connected with the attention given to entertainment for guests, in providing hotel facilities adjacent to the pier, and particularly for the luxurious arrangements of the President's reception

WILLIAM D HAGGARD, M D
PRESIDENT ELECT OF THE AMERICAN MEDICAL ASSOCIATION

## THE PRESIDENT-ELECT

When the American Medical Association met in San Francisco in 1923, the House of Delegates indicated by a remarkably close vote its choice between Dr. William A Pusey and Dr William D Haggard for the presidency of the Association At the meeting held in Chicago this year, Dr William D Haggard was elected to the presidency for 1925 with a large majority The President-Elect was born in Nashville, Tenn , Sept 28, 1872, the son of Dr William David Haggard and Jane Douglas He received his medical degree from the University of Tennessee in 1893, and has practiced in Nashville since that time Dr Haggard is professor of surgery in the Vanderbilt University, Nashville, one of the practicing surgeons in the Vanderbilt Hospital, and first president of the staff of St Thomas Hospital He was instrumental in organizing the American College of Surgeons, and served that organization for a number of years as regent He was formerly president of the Tennessee State Medical Society, secretary of the Southern Surgical Association, and its president in 1917 It is interesting to know that his father was the first president and one of the founders of the Southern Surgical Association In the American Medical Association, Dr Haggard was chairman of the surgical section in 1917, and a member of the Council on Medical Education from 1910 to 1920 When war was declared, he was appointed by Surgeon General Gorgas on the Advisory Board in the Division of Surgery, and was on duty in the Surgeon General's Office at Washington During the World War he served as major and lieutenant-colonel in the Medical Corps, U S Army, and acted as surgeon to Evacuation Hospital No 1, at Toul, France, and later as consultant in surgery at the Mesves Hospital Center Before going overseas, he served as medical aide to the governor in the organization and supervision of the medical advisory boards under the selective service act His election may be considered a recognition of medicine in the South, of his service in the advancement of medical education, and of the qualities of leadership and congeniality which he possesses

## CONGRESS, THE DOCTOR

Without a dissenting vote, the House of Delegates of the American Medical Association adopted last week a resolution calling on the Board of Trustees to use its best endeavors to have repealed such sections of the national prohibition acts as may interfere with the proper relation between the physician and his patient in prescribing alcohol medicinally The resolution has been greeted by the press of the country with general approval Most of the Chicago newspapers have already expressed themselves editorially, and the following statements represent their general attitude

Physicians who object to the provisions of the Volstead act regulating the use of alcohol in the practice of medicine are unanswerable If the law allows a physician to prescribe spirits for a patient, as it does, the dosage is entirely a matter for the physician's judgment and not for congress to prescribe

The law adopts a principle which makes congress the doctor The arbitrary dictum is that a patient may be given a pint of whisky every ten days as medicine, but no more, regardless of the opinion of the doctor in the case

Congress might have declared that whisky had no medicinal value Some physicians hold that it has no peculiar medical value Others contend that it has In practice they can follow their own opinions They will all agree that if it has value the doctor who prescribes it at his own discretion should have discretion as to the amount

Congress went on the assumption that the medical profession would misuse the prescription blanks The drys decided that the person who violated the intent of the law and got whisky as a beverage because it was legalized as a medicine should have just as little satisfaction out of it as possible Of course they did not reach the man they intended to reach The unscrupulous physician has no difficulty with this limitation He has many expedients by which it can be avoided The scrupulous physician finds that his practice is controlled by a law which affronts both his intelligence and his honesty

It is an absurd theory that congress may substitute itself for the physician in the treatment of disease, and it is no wonder that many physicians resent such an ignorant and dictatorial interference with medical practice—Chicago *Tribune*

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The eighteenth amendment is directed solely against the use of liquor as a beverage, and whether the medical clauses of the Volstead law are valid is a question not yet dealt with by the federal Supreme Court

Some physicians, it is true, yield to the temptation to prescribe liquor where it is unnecessary, and not a few have permitted themselves to become bootleggers in disguise But Volsteadism, with its sequels and supplements, has not prevented unscrupulous abuses and never will entirely prevent them The medical profession should purge itself of immoral and dishonorable elements, and its efforts in that direction would be stimulated by a congressional policy of confidence toward it The honorable physician is hampered by Volsteadism, while the charlatan is not even inconvenienced

The modification of the prohibition statutes demanded by the medical profession would not obstruct proper enforcement of national prohibition On the contrary, it would tend to facilitate enforcement—Chicago *News*

It has long been recognized that legislation is just as likely to follow public emotion as it is to be guided by scientific knowledge This fact was excellently expressed by Chief Justice Oliver Wendell Holmes in "The Common Law," when he said

The life of the law has not been logic, it has been experience The felt necessities of the time, the prevalent moral and political theories, institutions of public policy, even the prejudices which judges share with their fellow men, have had a good deal more to do than the syllogism in determining the rule by which men should be governed

The action of the House of Delegates and the general approval given to it by the public as expressed through the press are indications of a healthful reaction against enactments and regulations which have recognized, in their formulation, popular prejudice rather than scientific fact

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# *Medical News*

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

## CALIFORNIA

**Paroled Convict Wanted**—Louis A D'Angoise, a paroled convict from San Quentin prison, is wanted by the state authorities, charged with practicing medicine without a license and with passing worthless checks D'Angoise was convicted several years ago for forgery, it is reported, and in prison served as a nurse He recently endeavored to establish a "goat gland clinic" in Los Angeles, and was stopped when checks with which he attempted to pay for luxurious office furniture were found to be worthless Some of his patients have been very ill since submitting to D'Angoise's treatment, for which one at least paid him $400 He tried to have another patient sign checks for $200, May 25, and that was the last seen of him, according to the special agent of the state board of medical examiners

**Appropriation for State Hospitals**—The appropriation of $1,000,000, made for the state hospitals this year, will be distributed among all the seven state institutions The Sonoma State Home, Eldridge, will have two buildings erected which will cost $200,000, an addition to the main building will be made at the Mendocino State Hospital, Talmage, to cost $120,000, and a new $60,000 building will be erected There will be other improvements, as follows at the Napa State Hospital, Imola, a building for 120 patients, to cost $200,000, Stockton State Hospital, Stockton, three buildings, to cost $300,000, Norwalk State Hospital, Norwalk, two additions, to cost about $240,000, Southern California State Hospital, Patton, four buildings, to cost $320,000, and at the Agnew State Hospital, a school building and a wing for attendants will be erected

## CONNECTICUT

**Society News**—Dr Louisa Martindale of London, England, was a guest of the Connecticut Medical Women's Society at a meeting at Hartford, May 28 Dr Martindale discussed the status of medical women in Great Britain——At the one hundred and thirty-second annual meeting of the Fairfield County Medical Society at Bridgeport, April 8, Dr Frank H Coops, Bridgeport, was elected president, and Dr Henry C. Sherer, South Norwalk, vice president

## GEORGIA

**Village Honors Veteran Physician**—The entire 450 inhabitants of Concord turned out recently to an old fashioned southern barbecue to honor Dr Roger A Mallory, who has practiced in that village for forty years About twenty-five physicians and their families from neighboring towns also attended Dr Mallory was presented with a gold watch and charm

## ILLINOIS

**Better Baby Conferences**—A total of thirty-two better baby conferences have been scheduled by the state department of public health to take place during the next three months, most of which will be held in connection with county fairs The state furnishes a limited amount of professional service that renders organization and advisory assistance, local talent is depended on to actually carry out the conferences The state also furnishes such supplies as appointment and score cards, and literature

**Smallpox**—Between March 1 and June 14 of this year 513 cases of smallpox with more than a dozen fatalities have been reported in Illinois, while only 250 cases were reported

during the corresponding period of 1923 and only one death from smallpox for the entire year was recorded Up until June 1 the smallpox outbreaks were confined largely to very limited areas, but since that time epidemics have appeared throughout the state, affecting especially the counties of Cook, Douglas, Franklin, Lake, McLean, Madison, Rock Island and Whiteside

### Chicago

**Personal**—Dr Frank Billings was awarded the honorary degree of LL D at the recent convocation at the University of Cincinnati

**Society News**—At the recent meeting of the Chicago Society of Industrial Physicians Dr J Chase Stubbs was elected president, Dr William C Meacham, vice president, and Dr Horace C Lyman, secretary-treasurer

## IOWA

**Dr Howard Resigns**—Dr Campbell P Howard, head of the department of internal medicine, State University College of Medicine, Iowa City, has tendered his resignation in order to accept the professorship of medicine at his alma mater, McGill University Faculty of Medicine, Montreal

**County Medical Society Establishes Clinic**—The Woodbury County Medical Society has established a clinic at 209 Third Street, Sioux City to treat those who are unable to pay for medical service Forty physicians and a nurse are in attendance There are nine departments in the clinic, and 337 patients were treated during the month of April

## LOUISIANA

**Society Makes Appropriation for Walter Reed Memorial**—The local arrangement committee of the New Orleans meeting of the Louisiana State Medical Society appropriated $400 to the Walter Reed Memorial Fund The by-laws were amended whereby surplus money remaining in the annual arrangement fund each year should be turned over to the Committee on Walter Reed Memorial up to the time that such fund reaches $2,000, after which it shall be returned to the general fund of the state secretary

## MARYLAND

**Appropriation for Hospitals for Insane**—The general assembly this year has appropriated $667,000 for the state hospitals for the insane and feebleminded New structures will be erected at all the state hospitals At Springfield, a building increasing the capacity of the hospital by fifty beds and costing $142,000 will be erected, at the Spring Grove Hospital, a wing to the Foster clinic, which will accommodate 100 patients and cost $225,000, will be erected, and provision for 100 additional feebleminded children at the Rosewood state training school by erecting a $100,000 dormitory will be made

**Appointments and Promotions at Johns Hopkins Medical School**—Dean Lewis H Weed of the Johns Hopkins University Medical Department announced the following appointments and promotions, June 14

Dr John W McNee associate professor of medicine University College Hospital Medical School London Eng to be associate professor of medicine Dr Bela Halpert assistant professor to Prof Otto Grosser University of Prague Czecho-Slovakia to be instructor in anatomy Dr Henry M Thomas Jr promoted to associate professor in clinical medicine Dr Bertram M Bernheim to associate professor in clinical surgery Dr Richard S Lyman to associate professor in psychiatry Dr DeWitt B Casler to associate professor in clinical gynecology Francis H Swett Ph D to associate professor in anatomy William A Perlzweig Ph D to associate professor in medicine Dr Paul G Shipley to associate professor in pediatrics Dr Wilburt C Davison associate professor of pediatrics at the Johns Hopkins Medical School has been appointed assistant dean of the medical school an office recently created which will permit Dr Weed more time for research in anatomy Dr Davison received his degree from Johns Hopkins in 1917, after having studied at Princeton and at Oxford as a Rhodes scholar He will continue to be assistant professor of pediatrics

## MASSACHUSETTS

**Promotions at Harvard**—The following promotions in the faculty of the Medical School of Harvard University, Boston were announced recently Dr Frederick H Verhoeff to be professor of ophthalmic research, Dr Edwin H Place to be clinical professor of pediatrics Dr Joseph T Wearn, to be assistant professor of medicine, Dr Robert M Green, assistant professor of applied anatomy, Dr Frederick S Burns, assistant professor of dermatology, and G Benjamin White Ph D, to be assistant professor of bacteriology and immunology, and preventive medicine and hygiene

## MICHIGAN

**Smallpox in Detroit**—The smallpox situation in Detroit is improving, according to reports of June 3 Five new cases and one death were reported, June 1, making a total of 1,341 cases and 109 deaths since January 1 In May, 527,100 persons were vaccinated in Detroit Dr Henry F Vaughan is reported to have said that there are yet 200,000 persons in the city who require vaccination

## MINNESOTA

**Women Interns Admitted**—The General Hospital, Minneapolis, heretofore has not admitted women as interns, on the ground that they were not physically fitted for much of the work This policy has been changed, and women interns are now admitted to that hospital

**Contract to sell Practice Can Be Enforced**—The supreme court of Minnesota has decided that a contract made between two physicians, one of whom is employed by the other for a definite term and agrees not to enter practice in the same city or within reasonable distance from it and within a reasonable term of years, can be enforced by injunction The *Journal-Lancet* says that this principle would hold in case one physician sells his practice (good will) within reasonable time and distance from the home or office of the physician purchasing the practice

## MONTANA

**Great Falls Applies for Health Center**—The city of Great Falls has sent a request to the headquarters of the American Child Health Association, New York, requesting that the child health center to be established in the Far West be located there (THE JOURNAL, June 7, p 1873)

## NEBRASKA

**Academy Election**—At a meeting of the Nebraska Academy of Ophthalmology and Oto-Laryngology in Omaha, May 12, Dr S E Cook, Lincoln, was elected president, Dr H B Lemere, Omaha, vice president, and Dr Clarence Rubendall, Omaha, secretary

**Postgraduate Course for Practitioners**—The fifth annual postgraduate course for practitioners under the auspices of the University of Nebraska College of Medicine, Omaha, will be given June 16-28 The course consists of practical exercises, demonstrations and bedside work The facilities of the University Hospital and the outpatient department will be available

## NEW JERSEY

**State Medical Meeting**—At the one hundred and fifty-eighth annual meeting of the Medical Society of New Jersey, Atlantic City, June 5-7, the following officers were elected for the ensuing year president, Dr Alexander MacAlister, Camden, vice presidents, Drs Archibald Mercer, Newark, Lucius F Donahue, Bayonne, and James S Green, Elizabeth, corresponding secretary, Dr William J Carrington, Atlantic City, recording secretary, Dr John Bennett Morrison Newark, and treasurer, Dr Elias J Marsh, Paterson

## NEW YORK

**Change in Lunacy Law**—Among the amendments passed by the last legislature was one changing the law with reference to the appointment of lunacy commissions The amendment provides that alleged insane criminals are to be sent to the observation ward of Bellevue Hospital in Manhattan and to that of the Kings County Hospital in Brooklyn, and their mentality tested by two physicians there appointed by the commissioner of public welfare County judges and supreme court justices no longer have the power to appoint lunacy commissions to test the mentality of alleged insane criminals, in this state

**Physicians' Life Insurance Rate Increased**—The three-year agreement between the Medical Society of the State of New York and the Aetna Life Insurance Company, whereby physicians could secure liability insurance for limited policies with no exclusions for special hazards at the rate of $18 annually has been revised on a year to year basis with an increase in the rates Under the new agreement the rate for the same limits as allowed in the previous agreement will be $24 annually and the policy excludes liability for roentgen-ray and radium therapy If a physician desires these risks covered, it will be done by indorsement at an additional premium it is reported, of $75 annually The new agreement

was reached after a study by the insurance company's officers, and the attorney for the medical society

**Certified Milk Causes Paratyphoid Epidemic** — The State Department of Health announces that an epidemic of gastro-enteritis which recently occurred at New Rochelle was apparently paratyphoid fever transmitted through milk from a certified dairy Each of the fifty patients investigated is said to have used certified milk produced by a single dairy Forty-nine of these patients were under six months of age, the remaining patient was forty years old, and, having a gastric ulcer, was on a special diet which included this certified milk *Bacillus paratyphosus* B was found in the stool of some patients, and in one employee of the dairy, one of the active cases in the epidemic was this employee's child Early in the investigation a cow from this dairy was found which had an acute mastitis, from which a streptococcus hemolyticus was isolated The subsequent finding of the paratyphoid bacillus not only explains the probably real cause of the epidemic, but emphasizes, the health department says, the necessity for thorough and complete information before arriving at definite conclusions regarding the source of any epidemic

### New York City

**Diphtheria Clinic in Brooklyn** —The third diphtheria prevention clinic has been opened in the Williamsburg section of Brooklyn at 134 Broadway, under the direction of the department of health, the board of education and the Metropolitan Life Insurane Company Dr May C Schroeder of the department of health is in charge

**Hospital Installs Gas Apparatus** —Apparatus for the administration of chlorin gas has been installed at the New York Post-Graduate Medical School and Hospital This form of treatment will be employed in certain classes of infections of the respiratory tract in an effort to confirm the findings of Drs Vedder and Sawyer of the Army Medical Corps

**Scarlet Fever Serum Available** — The health department announces that through the cooperation of the bureau of laboratories and the bureau of preventable diseases it is possible now to offer Dochez serum treatment to scarlet fever contacts Children exposed to scarlet fever will be visited by a physician from the research laboratory, who with the approval of the family physician will administer the serum Physicians are urged to utilize this service

## NORTH CAROLINA

**Allowance for Quarters at Government Hospital Stopped** —The comptroller of the treasury has ruled, it is reported, that about thirty physicians on duty at the Veterans' Bureau hospital at Oteen are not entitled to the allowance for quarters, holding that living quarters are available at the hospital This means a reduction in salary of $60 a month for lieutenants and $80 a month for captains, or moving back to the hospital quarters erected for temporary occupancy during the war, and said now to be undesirable

## OHIO

**Clinic for Crippled Children** —A diagnostic clinic for crippled children under the auspices of the state board of health, the Ashtabula County Medical Society, and the Conneaut, Ashtabula and Geneva Rotary Clubs was conducted at Ashtabula, May 29, by Dr Walter G Stern, Cleveland Ninety-four crippled children attended the clinic

**Hospital Reorganizes** —During the construction of the $200,000 additions to the Peoples Hospital, Akron, including an obstetric wing of forty beds, a heating and lighting plant and an addition to the nurses' homes, the staff has been reorganized The departments now include medicine, surgery, obstetrics, eye, ear, nose and throat, anesthesia, proctology, orthopedics, pathology, and roentgenology There are thirty-three members on the active staff, of which Dr James G Blower is chief, Dr David W Stevenson, assistant chief, and Dr Morris C Tuholske, secretary

## OKLAHOMA

**Freshman Class at University Filled** —The freshman class at the Oklahoma University Medical School for the year 1924-1925 is already filled, and from the seventy-five names under consideration fifty will be selected More than seventy-five applications for admittance have been refused, and no further applications for enrolment will be received, according to the assistant dean Only Oklahoma students have been considered A new medical school building will be completed about the first of the year, when it is expected that a larger number of students can be accommodated

## OREGON

**State Medical Meeting** —At the annual meeting of the Oregon State Medical Society, May 27-28, at Portland, the following officers were elected for the ensuing year president, Dr Alfred C Kinney, Astoria, president-elect, Dr Paul Rockey, Portland, vice presidents, Drs Ralph Fenton, Portland, Leo B Bouvy, La Grande, and George E Dix, Marshfield, secretary, Dr Courtland L Booth, and treasurer, Dr Ralph C Walker, Portland Dr Kinney was the first president of this society fifty years ago

## PENNSYLVANIA

**Pennsylvania Wins Pennants in Health Tournament** —Eighteen pennants were won by Pennsylvania schools in the National Tournament in Health Knighthood during the first half of the school year of 1923-1924 Eleven were awarded to schools in the territory of the Shamokin Tuberculosis Committee and the other seven to schools in the jurisdiction of the Anti-Tuberculosis Society of Schuylkill County This is the second year that schools in Shamokin have won pennants

**Prosecute Faith Pastor for Diphtheria Deaths** —It is reported that Edwin Winterborn, pastor of Faith Tabernacle, Lebanon, will be prosecuted for violation of the health laws in connection with the recent epidemic of diphtheria among members of that congregation which resulted in the death of one adult and eight children in less than a month These patients refused to accept medical aid Disregarding the objections of the faith healers, the local health authorities finally compelled those affected and contacts to submit to treatment, and no deaths from diphtheria since then have occurred Winterborn is charged, it is said, with failing to observe the vaccination law in admitting children to his private school

### Philadelphia

**Shortage of Nurses** —A special meeting of the Philadelphia County Medical Society, which numbers 1,700 members, was called, May 21, to consider steps to relieve what is said to be an alarming shortage of nurses in Philadelphia For the last six months a special committee of the county medical society, with Dr S Lewis Ziegler as chairman, has been investigating nursing conditions

**New Bronchoscopic Clinic** —Dr Wilmer Krusen, director of public health, announced, June 6, that a bronchoscopic clinic is to be established in the Philadelphia General Hospital This clinic will be a duplication of the same resources as now maintained in the Jefferson Hospital and Dr Chevalier Jackson and his assistant Dr William F Moore of the Jefferson will serve as consultants

**Medical College Commencements** —The seventy-second annual commencement of the Woman's Medical College of Pennsylvania was held June 4 Dr Louisa Martindale, president of the London Branch of the British Federation of Medical Women, delivered the graduating address There were thirty-two graduates ——One hundred and forty-five men received the degree of Doctor of Medicine at the ninety-ninth annual commencement of the Jefferson Medical College in the Academy of Music, June 6 Twenty-five of these received commissions as first lieutenants in the Medical Reserve Corps of the U S Army, making the second group of Jefferson students to be commissioned Hon William Potter, president of the board of trustees, presented the diplomas and Dr Emory William Hunt delivered the commencement address

## RHODE ISLAND

**State Medical Meeting** — At the annual meeting of the Rhode Island Medical Society in Providence, June 5, Dr William F Barry, Woonsocket, was elected president, Drs Halsey De Wolf and Herbert G Partridge, Providence, vice presidents, Dr Jesse E Mowry, Providence, treasurer, Dr James W Leech, Providence, secretary Following the scientific session, the annual dinner was held at the Providence Plantations Club, at which the toastmaster was Dr Frederic V Hussey, Providence The after dinner speakers were Dr John O Polak, Brooklyn, who spoke on "The Modern Trend in Medical Education," and Carl Akeley of the American Museum of Natural History, New York, who spoke on his adventures in Africa The $300 prize offered last year by the Fiske Fund of the Rhode Island Medical Society for the best essay on "The Treatment of Neurosyphilis" was awarded to an essay entitled "To Be or Not to Be," the author of which was Dr James Lincoln McCartney, Washington, D C A similar prize will be offered for 1924-1925, for the best essay on "Recent Progress in Plastic Surgery"

## TENNESSEE

**Physician Fined on Narcotic Charge**—Dr Charles G Griffin, Nashville, indicted on a charge of violating the Harrison Narcotic Law, will pay a fine of $1,250, it is reported, as a result of a compromise made with the United States district attorney Dr Griffin and a number of other physicians were arrested on a charge of violating the anti-narcotic act in the spring of 1923

**Personal**—Dr Herbert Acuff has been elected president of the Knoxville Chamber of Commerce——Dr Henry K Cunningham and Dr Richard McIlwaine have been reelected medical inspectors of the city schools of Knoxville——Dr Marvin F Haygood, formerly director of municipal and rural sanitation for the state health commission of Georgia, has been appointed full-time health officer of Knoxville

## WYOMING

**Judge Refuses Writ to Venereal Suspect**—Judge Rose, Casper, refused to grant a writ of habeas corpus, June 7, for the release of Ollie Kelly, who was held by the city health department in the jail, suspected of having venereal disease The evidence at the hearing showed that the health officer had reasonable knowledge that Kelly should be examined, that a cursory examination indicated Kelly had venereal disease and that he was being held until the examination could be completed However the judge ordered that the plaintiff be released when the examination was completed or at most forty-eight hours after it was started

## CANADA

**University News**—The Rockefeller Foundation has recently presented the Medical College of the University of Toronto with the sum of $650,000 and that of McGill University, Montreal Que, with $500,000 —— The McGill University Faculty of Medicine celebrates its centenary this year The medical faculty, founded in the fall of 1824, was the first to be opened at McGill, and was the first medical school established in Canada

## GENERAL

**Water Safety Campaign**—The American Red Cross and the Boy Scouts of America will join in an extensive campaign this summer, the object of which will be to teach each of the 600,000 boy scouts to swim The Red Cross Life-Saving Corps has 45 000 qualified water experts who will be available throughout the country and particularly at summer camps as instructors

**Association of American Teachers of Diseases of Children**—At the annual meeting of this association held in Chicago during the annual session of the American Medical Association, the following officers were elected president, Dr Julius H Hess professor of diseases of children, University of Illinois College of Medicine, Chicago, secretary, Dr Paul W Emerson, Boston, of the department of diseases of children, Medical School of Harvard University, Boston

**Warning**—The Chicago Fresh Air Hospital writes that a young man, passing under the name of William J Bohannon, applied for admittance recently, destitute and in need of treatment After a week at the hospital he borrowed $25 by misrepresentation and cashed a check for $52 drawn on the Arizona National Bank of Tucson, which bank refused payment because C S Drake" whose name was signed to the check, had no account at that bank Bohannon is about 22 years of age with dark hair, brown eyes, 67 inches tall, weight 146 pounds He has a right-sided artificial pneumothorax, and was formerly treated in Arizona

**Third Pan-American Scientific Congress**—This congress will be inaugurated November 16, at Lima, Peru, South America, and will last for two weeks The organization committee consists of Dr Manuel V Villaran, rector of the university, president, Dr Alejandro O Deustua, dean of the faculty of letters and director of the national library, and Jose J Bravo president of the Peru Association for the Advancement of Science, secretary general The congress will comprise nine sections the presidents of which have been appointed The president of the section on medicine and sanitation is Dr Guillermo Gastañeta dean of the faculty of medicine The president of the section of biology and related sciences is Dr Wenceslao F Molina, dean of the faculty of sciences

**Committee to Consider Behavior Problems**—A temporary committee consisting of ninety-seven members, among whom are prominent physicians, educators and officials, has been organized to meet in conjunction with the annual meeting of the National Education Association, at the Shoreham Hotel, Washington, D C, July 3, 1924, to consider what the schools can do to help solve the behavior problems of children A request will be made of the National Education Association that a committee on behavior problems of children be appointed as one of that association's standing committees, and that such committee be requested to take steps to arrange conferences and a permanent organization Inquiries prior to the organization meeting, July 3, may be addressed to Graham R Taylor, 50 East Forty-Second Street, New York City

**Standard Methods of Water Analysis**—The American Public Health Association announces that an agreement has been made with the American Water Works Association whereby the committee on standard methods of the former association and a corresponding committee of the latter will in the future be jointly responsible for the text of future editions of Standard Methods for the Examination of Water and Sewage These committees may cooperate with other scientific bodies, if they so desire Each association will share equally in the cost of the production and in the receipts of sale Copies of the joint edition will be sold by both associations This book has been published for many years by the American Public Health Association It has come to be an international standard for water and sewage analyses as well as a textbook in many universities and laboratories

**National Tuberculosis Association**—At the twentieth annual meeting of the National Tuberculosis Association in Atlanta, Ga, the week of May 5, Dr Charles J Hatfield, Philadelphia, was elected president, Col George E Bushnell, U S Army, retired, Pasadena Calif, honorary vice president, Dr Walter Jarvis Barlow, Los Angeles, vice president, Dr Hoyt E Dearholt, Milwaukee, vice president, Dr George M Kober, Washington, D C secretary Drs William H Welch, Baltimore, Vincent Y Bowditch, Boston, and Edward O Otis, Boston, were elected honorary members of the association by the board of directors Mr Einar Holboell of Denmark, who devised and made available the Christmas seal idea for raising funds for the antituberculosis movement, was present and a resolution was passed expressing the appreciation of the association for his great service

**Roentgen Ray Society Prize**—The American Roentgen Ray Society has offered a prize of $1,000 to the author of the best piece of original research in the field of the roentgen ray, radium or radioactivity The competition is open to any one living in the United States or its possessions, or elsewhere in the Western Hemisphere, but is not open to any one holding a patent or copyright Work submitted for the prize carries with it the understanding that the subject matter will remain open to free use for the public good Papers must be typewritten in English and enclosed in a plain envelop, so that the committee will not know the contestant's name before the prize is awarded, and submitted not later than May 1, 1925 The prize is offered for the promotion of useful research with the approval of the National Research Council, and to commemorate the name of Dr Charles Lester Leonard who was a martyr to the roentgen ray Dr George W Grier 8088 Jenkins Arcade, Pittsburgh, Pa, is chairman of the committee

**Tests on Weakly Radioactive Preparations Discontinued**—Tests on waters, muds, slimes and other weakly radioactive materials have been discontinued by the Bureau of Standards Radium Laboratory of the Department of Commerce, and will be made henceforth only in cases of special importance Such tests are not considered of sufficient public benefit to justify making them in a government laboratory, while there is thought to be some danger of the results being used in fraudulent or questionable advertising Some of the materials submitted for test recently have proved to be about as radioactive as the Washington city water supply The Bureau of Standards ventures no opinion as to how little radioactive material a substance may contain and still possess therapeutic value, as such questions must be settled by the medical profession With many people however the mere statement that a preparation is 'radioactive' is sufficient They do not realize the importance of the amount of radioactivity, nor that most substances possess radioactivity in small amounts Tests on preparations of sufficient strength to be of unquestioned therapeutic value are being continued as formerly

**Medical Legislation in the Last Congress**—A survey of legislation relating to physicians public health and kindred matters presented to and considered by the recent session of Congress covers a wide range of subjects An important bill

was the measure to establish a Department of Public Welfare This measure has finally been remodeled to meet the approval of all cabinet heads of the government It was introduced in its present form by Senator Smoot, June 3 The measure was the subject of numerous conferences of the cabinet under President Harding and also under President Coolidge Those who have sponsored the movement believe that progress is being made in the work of placing under one head the various activities of the government relating to health Legislation in various forms was considered and passed relating to doctors in the Public Health Service, Veterans' Bureau and Indian Service of the government Congress has continued its program of summer camps, whereby approximately 30,000 youths of the country are given military training for a period each year This training, without question, will have its influence on the health and physical upbuilding of not only the young men who attend the camps, but all others who will be favorably influenced by this notable work of the federal government Schools and colleges will, without doubt, establish similar courses of training and such courses can be established without expense in many colleges, as well as high schools and grade schools There was also legislation passed which gave a pension status to army nurses, and a bill was favorably reported to the Senate giving army and navy nurses longevity retirement pay on the same basis as regular officers of the army and navy The Bonus Law awarded to physicians of the Public Health Service who were in the World War the same rights awarded to others who served in the war These rights were temporarily denied such physicians through the unwarranted objections of a certain member of Congress The rights were later restored, however, as they properly should have been The bill codifying the laws relating to the Veterans' Bureau at one period fixed the status of more than 600 physicians commissioned in the Public Health Service and temporarily assigned to the Veterans' Bureau This text of the bill was eliminated and it required an executive order of President Coolidge to designate these physicians as special experts, thus retaining them in the Veterans' Bureau with a definite status The Reclassification Law awarded to physicians in the Indian Service much needed increased salaries These increases average from 50 to 100 per cent above the existing salaries of such physicians in the Indian Service Unfortunately, the actual appropriation of money to pay such increases failed on the last day of Congress The tax reduction bill failed to incorporate the provision reducing the tax on physicians, dentists and others who use narcotics in professional capacity The rate of $3 per year still remains, although it is shown that the government makes more than $500,000 per year from the medical profession as a result of this tax The profession had asked that the original tax be restored—$1 per year Two other minor modifications of the Tax Law in the interest of the medical profession failed to be adopted

## FOREIGN

**The Netherlands Model Headquarters for the Public Health Service**—The new building recently inaugurated at Amsterdam for a central bureau for the public health service and social welfare work is in charge of Dr L Heijermans It has been planned with special reference to the statistics service and the fight against tuberculosis The *Tijdschrift voor Sociale Geneeskunde* has issued a special number with illustrations describing the building and the work of the department

**British Association Establishes Prize for General Practice**—The council of the British Medical Association has decided to establish experimentally an annual prize, to be called The Sir Charles Hastings clinical prize, for an essay or lecture designed to stimulate systematic observation, record and research in general practice The first prize will be awarded in 1926, and any member of the association engaged in general practice is eligible to compete The work submitted must include personal observations of the candidate collected in general practice, and a high order of excellence is expected

**Organizing Secretary for South Africa Society**—The British Medical Association has offered to grant £1,000 for three years to the branch society in South Africa to aid in the expense of employing a whole-time organizing secretary The *South African Medical Record* says, in part, that the most regrettable feature of the medical position in South Africa is not the small proportion of practitioners who belong to the British Medical Association, but the small proportion who belong to any medical association at all It appears that of about 1,400 practitioners in that country only about 700 belong to the association

**Intelligence and Cranial Capacity**—Prof R W Reid of Aberdeen, Scotland, and Dr J H Mulligan have published the results of a study of the relation between intelligence and cranial capacity on 449 male students of undoubted Scotch extraction The average head length, head width and head height were determined, and the product of these dimensions was taken as a measure of cranial capacity As a measure of intelligence, the sum of marks obtained in examinations in anatomy, physiology and pathology were used Other things were taken into account, but no sensible correlation was found between examination marks and cranial capacity The authors consider that their study confirms the opinion already expressed by Pearson and Macdonell that anthropometric examination of a person's head is no guide to the intelligence of the owner

## CORRECTION

**Society News**—THE JOURNAL (May 10, p 1557) noted the election of officers of the St Lawrence County Medical Society, New York Dr David E Hoag, New York, writes that this was an error as the election reported was not that of the medical society, but of the St Lawrence County Society which is an historical and social organization

# *Government Services*

### Hospitals Authorized

Pursuant to instructions from the Secretary of War, the organization of General Hospital No 126, organized reserves (St Luke's Hospital Unit, Kansas City, Mo ), General Hospital No 80 (Cornell University Medical College Unit, New York), General Hospital No 7 (Boston City Hospital Unit, Boston), and Veterinary Station Hospital No 1, organized reserves (Auburn, Ala ), has been authorized

### Public Health Service Physicians to Veterans' Bureau

President Coolidge, June 7, signed an executive order making 657 United States Public Health Service physicians "Special Experts" in the Veterans' Bureau This action was essential because of the passage of the Reed-Johnson Veterans' Bureau Law, which made no specific provision for Public Health Service physicians now in the Veterans' Bureau These physicians have for the last two years been employed in the Veterans' Bureau at Washington and in veterans' hospitals throughout the country, and heretofore have been in the Reserve Corps of the U S Public Health Service The order of the President is made under the general terms of the Reed-Johnson law, which places on the "technical and administrative staff of the Veterans' Bureau" such experts and assistants as the director may prescribe The effect of the order will be to give these physicians a rating through which it is unnecessary for them to comply with Civil Service Commission regulations

### Increased Pay in Indian Service

Physicians in the Indian Service of the government were given much needed increased pay by the report made under the Classification Law of the field service employees of the government In general terms the average pay of these physicians was increased from 50 to 100 per cent and was to be effective at the beginning of the fiscal year, July 1, 1924 The necessary appropriation providing for the payment of these increased salaries passed the Senate and House, but the bill did not secure the Speaker's signature in the closing hours and thus failed to become law It was clearly the intention of Congress to increase the salaries of these physicians, who are notoriously underpaid While definite prediction cannot be made, it is probable that the increased salaries will be given to these physicians either by executive order or by affirmative decision of the Comptroller General of the Treasury Department The precedent for such action may be based on the fact that such decision has, within the last few days, been made by Comptroller General McCarl with reference to increased pay for teachers, police officials and other employees of the District of Columbia There are approximately 186 physicians in the Indian Service whose average pay has been approximately $1,100 per year

# Foreign Letters

## LONDON

*(From Our Regular Correspondent)*

May 26, 1924

### The Welfare of the Blind

In the House of Commons was read a second time a bill proposing that every blind person who has attained the age of 30 shall be entitled to receive such pension as under the Old Age Pensions Act he would be entitled to receive if he were 70 years of age The present pension age is 50 According to the bill, county councils and county borough councils are to make arrangements to the satisfaction of the ministry of health for promoting the welfare of blind persons ordinarily resident within their area, by providing and maintaining workshops and hostels and homes for them Those employed in the workshops are to be paid remuneration not less than the average standard rate received by unskilled laborers in the district The blind must be no longer left solely to the care of institutions, splendid as has been the work they have done in the past The number of blind persons in England and Wales from 1 year of age upward is 36,578 Those trained and employed amount to 8,239, those under training only to 1,246, and those unemployed, who are between the ages of 30 and 70, number 20,759

Mr A Greenwood, parliamentary secretary to the ministry of health, expressed the desire of the government to maintain the spirit of unanimity already in the house He stated that for many years the labor party had taken an active interest in the welfare of the blind The government attached considerable importance to steps for the prevention of blindness Apart from industrial and other accidents, blindness was in large measure preventable Every effort should be made to eliminate preventable blindness, and to that question the minister of health was now giving his attention

### Criminal Responsibility

As recent letters have shown, the subject of criminal responsibility has been under discussion for some time, both in medical and in legal circles Addressing the jury at the Berkshire assizes, Justice Horridge said that recently there had been a controversy as to the criminal responsibility of persons about whom there might be a suggestion of mental deficiency, and a bill on the subject was introduced in the House of Lords but was withdrawn He agreed with the ruling given by the judges after the McNaghthen case, namely, that the judge must tell the jury that a man was not responsible for a crime if he did not know the nature and quality of the act, or if he did not know that it was wrong That had been an excellent working rule, because behind the actual trial there was the home secretary, who could always order an inquiry by physicians if exceptional circumstances warranted it, and he was guided by them as to whether the sentence should be carried out or not The public might be certain with these safeguards that justice would not miscarry Certain scientific medical persons had lately started a theory that a man should not be held responsible for actions, if actuated by an irresistible impulse It was quite impossible to put that into working practice How was a jury to determine whether a man was actuated by an irresistible impulse arising from mental disorder when he snatched an attractive bag from a woman's hand? Irresistible impulse arising from mental disorder was seldom advanced except in murder charges, the reason being, he supposed, that imprisonment in an asylum for the criminal insane was often far more serious than any punishment that might be imposed for a less grave crime than that of murder

### Prevalence of Epidemic Encephalitis

The ministry of health states that the number of cases of epidemic (lethargic) encephalitis notified in England and Wales during the week ending May 17 was 286, to be compared with 291 for the week ending May 10, and 262 for the week ending May 3 Since the beginning of the year the number of notified cases has been 2,473 (as compared with an annual average of 839 in the previous four years) Out of this total, 281 have occurred in London, the chief centers affected elsewhere being Manchester, Sheffield, Birmingham and Bristol In general, however, the cases have been widely scattered throughout different parts of the country It is too soon to estimate the mortality, but on the deaths so far reported the mortality has varied in different cities from 12 to 21 per cent of the notified cases The present epidemic prevalence is similar to, though more extensive than, that of the corresponding period in 1921, when a total of 1,155 cases was reported Speaking generally, there are signs of decline in the districts mainly affected, but the spread of infection to new districts results in the maintenance of the total prevalence As in previous years, there is little evidence that the definitely recognized cases of the disease are responsible for spreading infection, the epidemic being presumably kept up by slight and unrecognized cases, or by healthy carriers of the virus of the malady No specific measures, such as vaccines, are at present available either for prevention or for treatment Researches on the nature of the virus, and many other problems arising in connection with encephalitis, are being actively pursued under the direction of the Medical Research Council, and in numerous laboratories at home and abroad

The following table gives the notifications of and deaths from epidemic encephalitis in England and Wales for each quarter in 1922 and 1923, and for the first twenty weeks of 1924

| | Notifications | Deaths |
|---|---|---|
| 1922 | | |
| First quarter | 140 | 95 |
| Second quarter | 132 | 96 |
| Third quarter | 89 | 82 |
| Fourth quarter | 93 | 66 |
| 1923 | | |
| First quarter | 448 | 188 |
| Second quarter | 279 | 167 |
| Third quarter | 144 | 90 |
| Fourth quarter | 154 | 86 |
| 1924 | | |
| First quarter | 753 | 229 |
| Seven weeks ended May 17 | 1715 | |

In Birmingham, the number of victims of epidemic encephalitis continues to increase, and fifteen further cases were notified last week, one of them proving fatal The health officer has circularized the medical profession, calling attention to the different types of the disease most prevalent, and mentioning that since the commencement of the present year about 150 cases have been reported in the city They are occurring in various parts of the city, and almost without exception there is no connection between any two cases In Sheffield, last week, the number of new cases was seventeen There were five deaths from this cause in the city This brings the total number of cases in Sheffield since March 10 to 234, with thirty-one deaths The average for the last seven weeks has been twenty-six new cases and three deaths The Glasgow health department reported eighty-five cases in the city since early last month Three deaths have occurred so far The disease is much milder in type than that of the visitation of a year ago, but is more widespread over the city area The opinion is officially expressed that the malady is now on the wane but, as recovery is slow, the large majority of patients are still under treatment or observation in city hospitals

## PARIS

*(From Our Regular Correspondent)*

May 23, 1924

### Ceremonies in Honor of the Tercentenary of Sydenham

The Academy of Medicine devoted its last session to the commemoration of the tercentenary of the birth of Sydenham Dr Doleris, president of the academy, opened the ceremonies and delivered the address of welcome to the official British delegates to the celebration Dr Sidney Phillips, treasurer of the Royal College of Physicians of London, Dr Ryle, member of the Royal Society of Medicine, and Dr Russell, former secretary of the Sydenham Society Professor Chauffard then read a fine eulogy of Sydenham, whom he described as an eminent observer, attaching little importance possibly to the teachings of his predecessors, preferring to rely on what he learned from his own practice and trusting only what he saw with his own eyes The masterwork that every physician thinks of when the name of Sydenham is mentioned, Chauffard recalled, is his famous treatise on gout His description of this disease is such a classic that Lasegue aspired to produce a translation of it His account has taken such a hold on our minds that when we observe our patients suffering from gout we seem to be looking through the eyes of this old master Trousseau refers to this treatise, De podagra et hydrope, as a 'marvelous monograph—at once so short and yet so complete" "If you translate," says Trousseau, "into modern scientific language this work of the English Hippocrates, you will be surprised, as you read and admire the description that this great man has given us of gout, how little is left to be added" In the field of clinical observation, his words still ring true From reading these few pages, we get the impression that he has seen everything and told everything, and that in the most precise and definite language

Sydenham was a noble, upright character, who lived a very simple, quiet life, full of disinterested devotion to his work He was not a seeker after honors or public office, nor did he care to take on professorial duties or to give oral instruction He was in charge of no hospital service, and his sole ambition seems to have been to examine his patients thoroughly, to care for them in the best manner possible and to make known to the medical profession the results of his observations He was truly and above everything else a great practitioner In closing his address, Chauffard referred to the fact that in 1840 the Royal College of Physicians of London caused the monument erected to Sydenham in Saint James Church, Piccadilly, to be restored, at which time these words were added to the epitaph *Medicus in omne aevum nobilis* (a physician whose nobility of character persists down through the ages) This is the judgment of posterity

Drs Phillips and Ryle, two of the British delegates, delivered short speeches in which they thanked the academy for the homage paid to their fellow-countryman The ceremonies closed with a few words by Professor Achard, general secretary of the academy, in which he emphasized the duty of academies to revive from time to time the memory of our great predecessors, for we should be at all times ready to acknowledge ourselves their grateful heirs, no matter how great may be the newer riches that have come to us

### The Danval Affair

Our supreme court (the court of cassation) has recently annulled the decision by which, forty-six years ago, the court of assizes of the department of the Seine had pronounced a life sentence at hard labor against the pharmacist Danval, charged with having committed the crime of poisoning his wife with arsenic After performing a chemical analysis of the organs taken from the body of Mme Danval, the experts had stated that they had found an appreciable amount of arsenic in them At that time, it was held that arsenic does not exist normally in the organism The expert witnesses felt, therefore, compelled to attribute the death of Mme Danval to poisoning by arsenic There was, it is true, a counter opinion, rendered by Bouis, professor of toxicology at the Ecole de pharmacie of Paris, who admitted the presence of an exceedingly slight amount of arsenic in the liver and the intestine but could not discover a trace of the mineral in the stomach He supported the view that the infinitesimal amount of arsenic found in the organs might be due to accidental causes and concluded that the wife of Danval had not died as the result of poisoning by arsenic Still other experts were heard, who gave contradictory reports In the necropsy report, the expert witnesses had concluded that there was an "absence of any determinable cause of natural death," although Cornil, professor of pathologic anatomy, who represented the defendant, pointed out that the necropsy had been incomplete on several counts, especially as regards the examination of the pancreas, the liver and the kidneys He maintained that there might have been found in the kidneys evidence of interstitial nephritis, which might have produced symptoms of uremia such as had been observed in Mme Danval Cornil concluded therefore that there was no just ground for affirming that Mme Danval had not died from natural causes, and that there was no sound basis for the belief that she had been poisoned by arsenic

It would seem that such contradictory opinions should have awakened doubts in the minds of the jury Such was not the case, however, and Danval received a life sentence at hard labor In 1899, Prof Armand Gautier demonstrated the presence of arsenic in the normal state in the organism Danval, as the result of this discovery, obtained a pardon in 1902, and in 1904 he entered a demand for a revision of the original decree condemning him to life imprisonment The court of cassation rejected his first demand, basing its decision on the consideration that the arsenic found in the cadaver could not be attributed to the normal supply of this mineral in the organism, for the quantity found in the cadaver was much greater than the infinitesimal amounts found by Gautier in the healthy body But, in 1921, the results of new investigations were communicated to the Academy of Sciences by Kohn-Abrest, Sicard and Paraf, which went to show that the quantity of arsenic existing in the normal state in the organism ranged from 1 to 3 mg, whereas the quantity of approximately 2 mg found in the cadaver of Mme Danval had been interpreted as constituting evidence of arsenical intoxication It was pointed out also that the symptoms of renal insufficiency recently described resemble those of poisoning and are not unlike the symptoms that Mme Danval presented shortly before her death Danval filed accordingly a second request for a revision of his case, which was granted, with the result that the original decree of life imprisonment was annulled The court of cassation ruled that the state should pay Danval 20,000 francs in one lump sum, and, in addition, grant him a life annuity of 12,000 francs

When Danval was sentenced in 1878, he was 33 years old When pardoned in 1902 he had been twenty-four years in prison He is now 79 years of age

### Lectures Delivered by American Physicians

During recent weeks, several medical lectures have been delivered in Paris by Americans Dr Young of the Johns Hopkins Hospital, Baltimore, gave an address in French at the Faculty of Medicine of Paris, on the treatment of general and local affections by intravenous injections of mercurochrome-220 soluble and gentian violet Dr Beer of the Mount Sinai Hospital, New York, delivered a lecture (also in French) on the diagnosis of renal and bladder affections in children

## VIENNA

*(From Our Regular Correspondent)*

May 8, 1924

### Diseases of Speech and Their Treatment

In the regular postgraduate classes for practitioners instituted by the Vienna Medical College and accessible to all medical men, Drs Stern and Poschels discussed stammering and other affections of speech The most frequent affection is called dyslalia, in which a letter cannot be pronounced at all, or is pronounced with difficulty, or is replaced by another Balbuties, or true stammering, is a complex of mostly nervous disturbances of articulate speech Aphonia spastica, as well as aphasia, is not very frequent Mutism is much more frequently encountered, either as deaf-mutism or as idiopathic (or auditory) mutism While the deaf-mute cannot learn, of his own will, to speak, the other group hears, but cannot make use of its hearing to speak (motor or sensory mutism) In the motor cases the patients can be taught to speak by muscular exercises, and by respiratory and optic exercises The sensory group is much less amenable to treatment than the first group, which gives 100 per cent cures, if properly looked after Poschels has found that stammering is mostly due to difference of development between the ability to speak and the will to speak in children Sometimes the will is quick, but the stock of words is not sufficient to express the thoughts, in other instances, the child wishes to speak, but does not know what to say or how to speak In both cases it will repeat the last syllable until the correlation is again restored, or the new word or syllable is found Such "infantile" stammering is frequent, and disappears soon without trace If, however, this condition persists for a long period and true (tonic) stammering is added, then the condition requires treatment, by removing the "fear of speaking" by improving physical development, by reframing from calling the attention of the stammerer to his defect, by regular exercises of speaking and reciting, or, in severe cases, in handing the patient over to the speech specialist It is always necessary, of course, to find out whether the mental condition of the child is normal and how the acoustic nerve functions

### Retrobulbar Neuritis and Accessory Sinus Disease

Retrobulbar neuritis and accessory sinus disease were discussed at a recent meeting of the Vienna Ophthalmologic Society Drs Beck and Pillat gave the results of their investigations in sixty-four cases of nasal obstruction, fifty-three cases of empyema and twenty-five cases of ozena, with a view to ascertaining the ophthalmic condition of these patients In none of the patients could any trace of retrobulbar neuritis be found clinically But the histologic findings in four cases of neuritis in which the nasal mucosa was examined showed signs of edema and infiltration with round cells and eosinophils, in other words, a serous catarrhal inflammation was present, but no osseous changes were found Dr Beck concludes that, while actual disease conditions of the nose are not associated with retrobulbar neuritis, the latter is present in cases with a mild inflammation of the mucosa of the accessory sinuses In all the cases with severe changes of the nasal mucosa, a normal fundus and a normal visual field were found, just as in cases with normal nasal conditions Professor Meller, an ophthalmologist, and Professor Neuman, a rhinologist emphasized the fact that rhinologists must now admit that it is important to open up the accessory sinuses in such cases, even if no gross change is found, if the ophthalmologist requires them to do so, for the frequency of improvement after operation and the poor results of conservatism prove that the ocular condition is influenced by the operation, especially when slight or no changes are found in the mucosa Dr Hirsch, a rhinologist, and Drs Kofler and Kramer and Professor Dimmes, ophthalmologists, pointed out that not only should rhinologists be widely informed of the results of these investigations, but also general practitioners should be instructed that an early opening of the nasal sinuses is important in all these cases, to avoid a loss of vision Purulent inflammations of the sinuses mostly lead to intra-ocular complications, such as phlegmonous inflammations or panophthalmia, but serous catarrhal inflammations, without manifest signs in the nasal mucosa, may cause retrobulbar neuritis

### Professor Hochenegg's Attack on the Profession Verdict of the Disciplinary Court

As mentioned previously, Professor Hochenegg published a pamphlet embodying in a more concise form the statements made by him before an audience of medical students two or three months ago In the lecture and the booklet, he charged the bulk of the medical profession with dichotomy and errors in arriving at an indication for surgical intervention The storm of indignation that broke both in the profession and among the public was not allayed when he refused to substantiate his charges by giving precise figures or names The medical council instituted an investigation of the actual conditions, and published its material pertaining to these charges It is well known and accepted by the state institutions that the house physicians or other medical men who are assistants or anesthetists at operations get a fee of from 20 to 25 per cent of the surgeon's fee, but that is not a "commission," as contended by Hochenegg It is a regular payment for actual services rendered to the patient, and its payment has never been kept hidden from the patient All specialists admit that this state of affairs exists and no patient ever refuses to pay the assistant's fee Even sickness insurance clubs pay 20 per cent of the operation fee to the assistants and the same amount to the anesthetist In accusing the profession of dichotomy, the professor has exaggerated recognized facts As regards his other charge—want of judgment in indications for operations—he could not show a single instance to support this charge The disciplinary court of the medical council came to the conclusion that the professor grossly neglected the duty of substantiating his accusations, and that he acted absolutely unethically in falsely accusing the whole profession of dishonesty He was fined half a million kronen and deprived of the active and passive right of election on the representative bodies of the profession The council cannot impose any severer judgment But the fact that he has been condemned by the disciplinary court and declared to have behaved contrary to medical ethics will be reported officially to the board of the Vienna University and will result in depriving him of the *venia legendi* (the right to give university instruction), in other words, he will have to give up the clinic Medical circles regret that the council has no direct means of dealing with such an offender, and that the real punishment must be left to other institutions

### Meeting of the Austrian Antituberculosis Society

The sixth meeting of the Austrian Antituberculosis Society which was held recently in Vienna, united a large number of persons engaged in fighting tuberculosis Apart from technical papers devoted to the management and control of welfare centers, a number of medical papers were presented Professor Weichardt of Erlangen discussed the theory of treatment by protein bodies The organism itself that has been attacked plays the principal part in its defense The modern view, therefore is to attempt to activate the cells of the body, so that their defense may be more effective By injecting proteins, a nonspecific therapy against all wasting diseases is aimed at and excellent results have been obtained in tuberculosis Milk injections have been shown to be a

most potent means of increasing the resistance of the organism against infection, their "omnicellular" action is distinctly opposed to the specific immunity produced by toxins and antitoxins A paper on modern methods of treatment of tuberculosis was presented by Professor Lorgo He showed why nontuberculin injections are scientific, that injections with blood serum are very promising, and that protein injections are the "latest cry" Heliotherapy, he said, must be used with caution, but in selected cases of laryngeal, skin or bone tuberculosis it may be most beneficial Psychotherapy is essential in all cases of long standing, and climate and diet are among the most important factors Hygienic dietetic treatment must never be omitted, even in the lightest cases, for this is the only safe means to build up a body that will produce the necessary resistance Professor Pfaundler of Munich spoke about errors in diagnosis in tuberculosis of children, and Weinberger of Vienna spoke on the same subject in adults Both agreed that the Pirquet test is a most reliable means of clearing up a diagnosis Professor Durig of Vienna pointed out that at present the mortality from tuberculosis is diminishing, especially in Austria, owing partly to the rapid increase in institutional care of the tuberculous, partly to the fact that all the more severely affected persons died during the years 1917 to 1920, when underfeeding was at its height, and partly to improvement in treatment Dr Gotzl stated that of 3,761 men school teachers in Vienna, 16 per cent had to be placed on the tuberculosis permanent sick list, and of 3,985 women, 3 per cent Vienna is foremost among all cities in eliminating this source of infection in children, by special provision, a tuberculous teacher is invalided at once with a pension ample to keep him away from work as long as necessary Among the Vienna school children, there were 419 out of 131,000 who had tuberculosis of the joints or bones (0 4 per cent ) Exact figures pertaining to pulmonary tuberculosis are not available One of the most important factors in diminishing tuberculosis would be to prevent tuberculous parents, especially mothers, from having children The Austrian law is very strict on the artificial interruption of pregnancy just now, and an animated discussion is going on in parliament on this subject Statistics from England and Germany show that for each thousand adult men of the middle classes, there are 100 children, of skilled workmen, 250, of unskilled laborers, 450 children This shows where the chief danger in the spread of tuberculosis lies The meeting lasted three days, and was followed by a meeting of the child welfare societies

## BERLIN

*(From Our Regular Correspondent)*

May 14, 1924

### The German Congress of Internal Medicine

For political reasons, the German congress of internal medicine was not held in Wiesbaden but in the health resort of Kissingen Great interest was manifested in the congress, and the attendance exceeded 800 I will confine my report to a discussion of the three main topics

#### IONTHERAPY AND MINERAL METABOLISM

The papers and topics on the first day's program dealt mainly with iontherapy and mineral metabolism in the body Professor Wiechowski of Prague discussed the theoretical bases of the problem, emphasizing that the ash analysis does not reveal the condition of the inorganic components of the original material before incineration took place But it is precisely this knowledge that we must secure in order to separate the organic from the mineral components in the organism, foodstuffs and the eliminations Such a separation is not possible unless one differentiates organic groups from inorganic compounds and not merely organic substances from inorganic substances Organic compounds are those in which carbon atoms are combined with one another or directly with a carbon atom Inorganic compounds are those in which the union is brought about otherwise, for example, through an oxygen atom Under this conception, certain ester and ether compounds, and likewise phosphorus in the phosphatids, are bound inorganically, whereas the nitrogen in nitro compounds, the iron in hemoglobin, and the magnesium in chlorophyl, are bound organically

Inorganic compounds, especially those brought about through oxygen ($O_2$) atoms, are easily dissociated in watery solution into ions, whereas ions are not produced easily from organic compounds For the most part, the organs and the food are changed in the same manner through vital oxidation Only a small part is eliminated as an unoxidized organic compound, for example, beta-oxybutyric acid and acetoacetic acid in the diabetic patient Noncombustible organic cations need hardly be considered in mineral metabolism As two important groups of compounds found in the organs, the eliminations and the food as the result of vital oxidation may be mentioned, in addition to water and nitrogen (or ammonia) (1) the anions chlorid, hydrogen-carbonate, sulphate, phosphate, iodid and silicate ions, and (2) the cations sodium, potassium (ammonium), magnesium, calcium, iron, aluminum and zinc It is advisable to express the results of the analyses in milligram valence and record them in tables This will show what changes in the mineral coefficient the body undergoes through a certain food For example, there is found to be a great similarity between the cations of milk and vegetables It is found, furthermore, that, in the body, the blood serum and the lymph, the sodium ion and the calcium ion prevail, whereas in the cells and in the solid tissues the potassium ion and the magnesium ion preponderate Possibly all tissue fluids, such as the cerebrospinal fluid and the aqueous humor, are normally albumin-free salt solutions in which the body cells are contained Also in the case of the anions, chlorid prevails in the fluid components, and, in the cellular tissues, the phosphate ion is preponderant, for example, muscle freed of blood contains no chlorid The inorganic components of the cell itself contain thus potassium, magnesium and phosphate ions, the fluids, on the other hand, contain sodium and chlorid ions Also in foodstuffs all these ions are found in inorganic union, so that through the process of digestion they are freed and become absorbable Likewise, in the eliminations, all the ions are bound inorganically, of the anions in the bowel evacuations, the phosphate ion predominates—in the urine, the chlorid ion is preponderant Changes in diet, as experiments on rabbits have shown, may completely alter the behavior of the organism Thus, animals on a green fodder diet have a lower temperature, a short coagulation time for the blood, are hard to anesthetize with magnesium salts, and are very resistant to inflammatory irritants The changes in the mineral coefficient are evidenced also by the physiologic and pathologic behavior of experimental animals It is important to note not only the quantity of the minerals but also their degree of ionization, their relations to the albumin, also the equilibrium of the ions In pathologic cases, the importance of diet and the use of mineral waters has been shown, since, through exogenous introduction of minerals, mineralization, demineralization or transmineralization appears feasible

Prof H Straub of Greifswald discussed chiefly the relation and influence of the salts on the condition of the colloids in the body These investigations throw light on the chief mechanisms of the organism Whereas formerly osmotic pressure was the thing chiefly studied, we are now familiar with the action of ions on the charging of the colloids and the resulting manifestations of imbibition, solvent action,

flocculation or permeability changes in the cell borders Water has a unique position among the solvents, since it easily dissociates the salts into their ions and produces strongly active ions Research thus far has been applied mainly to isolated cells or organs, since the body as a whole is not easily accessible for this form of research We have already learned the great importance of the basic and acid ions for the living organism Especially interesting is the significance of the salts in the relations of hemoglobin to oxygen For the clinical estimation of mineral metabolism, the balance experiment is the usual method employed Through this method, the mode of elimination of the minerals of the body was determined, also the minimum intake required, the maximum amount eliminated and the constitution of the reserve We have learned also the significance of phosphoric acid and calcium for the regulation of the acid-base equilibrium of the body In recent years, through ash analyses of the tissues and the blood, the intermediary metabolism has been studied A constancy of osmotic pressure, in the volume of salt components and in the acid-base equilibrium of the body fluids, has been noted even in the lower orders of animals The determination of the freezing point indicates the total amount of the dissolved particles, so that the balance shows whether unknown acid or basic components failed to be discovered in the analysis The equilibrium of the nonvolatile acids and bases is preserved by the kidneys through the elimination of more acid or more basic urine The blood itself is well protected against marked disturbances by the buffer qualities of the hemoglobin The carbonic acid that is developed in the course of metabolism regulates through the breathing the nice adjustment of the acid-base equilibrium, under the influence of the respiratory center Disturbances of respiration through local affections in this region may lead to pathologic changes in the blood reaction In gastric digestion, the withdrawal of hydrochloric acid from the blood leads to the retention of carbonic acid in the blood and to the formation of alkaline urine The composition of the food of herbivorous animals makes it more difficult to preserve the mineral coefficient of the blood than it is for the carnivorous and the omnivorous animals (man) Sleep and emotional excitement influence the mineral coefficient, also the seasons, heavy muscular labor and pathologic conditions (acidosis in patients with diabetes), through their effect on the respiratory center, also affect it On ingestion of certain neutral salts, the acid coefficient of the body is increased For instance, if calcium chlorid is administered, the hydrochloric acid content is increased, the calcium being eliminated through the intestine The most serious disturbances are brought about through disease affecting the regulatory organs, especially the kidneys The fluctuation of the acid components of the blood as dependent on the food is referred to as poikilopikria, the variations in the ion coefficient are spoken of as poikiloionia Uremic dyspnea and the acidosis of kidney patients—occurring also in pneumonia—are examples of such blood changes Also closure of the pylorus and changes in the upper reaches of the intestine bring about modifications in sodium chlorid action, through which tetany may result Also the nervous system and the endocrine glands play a part in determining the character of mineral metabolism

Professor Freudenberg of Marburg dealt more particularly with the results of recent researches on calcium metabolism, especially in pathologic cases of tetany and rickets The Rona formula for the dissociation of calcium, in carbonic acid and bicarbonate-containing solutions, should be supplemented, when applied to blood calcium, by a consideration of the phosphates An extended formula can be worked out by using the ion coefficients as determined by Behrendt But even an extended formula would not have any practical value, since in the presence of nitrogenous substances of the amido group only slightly ionized complex compounds of calcium result The existing theories in regard to calcification, which are based on changes in solubility, are not sufficiently well founded The albumin colloids of calcifying tissues are, as the type experiments of Freudenberg and Gjorgy have shown, of great importance in the calcification process In rickets, the first phase is marked by a disturbance in the calcification process, the second by a dearth of phosphate, and the third by rachitic acidosis The reasons heretofore assigned for the development of alkalosis in infantile tetany have been supported by further discoveries There is, in a frankly manifest condition, an acapnia which is due to hyperexcitability of the respiratory center The calcium ions are appreciably diminished in the blood dialysate

### INSULIN THERAPY

The principal theme under discussion on the second day was insulin therapy in diabetes, on which Professor Minkowski of Breslau, chairman of the German committee on insulin, gave an exhaustive report German clinical investigators have confirmed entirely the statements of the Canadian scientists Banting and Best Insulin supplies the diabetic patient with a substance that he lacks It stimulates also certain definite life-giving functions, whereby the patient's general condition is improved, while body weight increases through the taking on of fat and proteins This is especially noticeable in grave cases Insulin is indicated also when surgical intervention becomes necessary, when the patient is threatened with neuralgia, stubborn affections of the skin or pulmonary tuberculosis—or, more particularly, with diabetic coma The overloading of the organism with sugar and the defective utilization of carbohydrates are remedied through the modification that the system undergoes, and normal conditions are restored Whether insulin exerts merely a palliative effect or is a therapeutic remedy having a lasting influence has been found hard to decide, for the reason that it is usually the grave, formerly incurable cases in which insulin is employed The danger of the so-called hypoglycemic reaction has been overestimated The treatment must be adapted to the individual, and caution must be exercised, especially in the choice of an active and pure brand of insulin The selection of the proper diet for the patient is also very important Besides the American, English and Dutch preparations, there are now good German and Austrian brands on the market The substitutes for insulin, however, cannot be relied on as yet The remedy is best administered subcutaneously Other methods of administration are not so certain The action of insulin is based on the furtherance of the utilization of sugar and not on the checking of the oxidation of sugar in the liver Many theories have been advanced to interpret the action of insulin, but the problem has not become clarified as yet Insulin exerts an influence also on the metabolic functions that take place outside the liver It is possible that several associated cell functions are influenced by it It is possible also that it contains several substances that have not yet been isolated chemically Thirty years ago, Minkowski and von Mering induced experimentally in animals, through removal of the pancreas, a pancreatic diabetes, which was brought to a standstill on reimplantation of the pancreas They did not, however, succeed in producing the chemically active substance of the pancreas, free from subsidiary actions The attainment of this goal was left for the undeniably meritorious efforts of the Toronto scientists

### NERVOUS AFFECTIONS OF THE STOMACH

The more important papers of the third day concerned the nervous affections of the stomach Professor Magnus of Utrecht dealt with the experimental bases of the subject He

described briefly the physiology of gastric motility, the development of the so-called hour-glass stomach, gastric secretions, the pyloric reflexes, the backward flow of intestinal contents into the stomach, and gastric contraction due to hunger. He then discussed the experimental production of secretory and motor disturbances, and called attention especially to the interdependence of the two groups. Hyperacidity is almost never based on a primary increase in the hydrochloric acid concentration of the gastric juice, but may be due to food retention, continuous flow of gastric secretion, disturbances in pepsin digestion, or changes in the stimulability of the gastric glands. He took up also the relationship between gastric ulcer and hyperacidity. Hyperacidity may be elicited also reflexly from the intestine through absence of the pancreatic juice. Disturbances of motility are the result of either abnormal gastric movements or abnormal activity of the pylorus. Also these points were considered: acute motor insufficiency following chloroform anesthesia and abdominal operations, acute pyloric spasm after operations and irritation of the intestine, the dependence of disturbances in motility on direct injury to the stomach wall, on peripheral reflexes and on conditions affecting the intestinal nerves, for example, in peritonitis. He discussed also the conditions leading up to chronic food retention and the causes and results of accelerated evacuation of gastric contents. The vagus and the splanchnic nerves may sometimes be incriminated for disturbances in gastric motility, depending on the state of excitability of their centers. Magnus described in detail the influence of each nerve and the behavior of the stomach under their combined influence, as shown by experiments in which the one nerve was excluded and the other stimulated. By animal experimentation, it is possible through simple interventions to produce various pathologic conditions and to study thoroughly the secondary results of primary disturbances. However, through the clinical observation of patients it is impossible, owing to the multiplicity of simultaneous symptoms, to discover the primary cause.

Professor von Bergmann of Frankfort-on-the-Main holds that the purely clinical method of observation is still to be regarded as the most important in studying this subject. Attention was called to the fact that, owing to the advances made in the diagnosis of gastric conditions, a diagnosis of "nervous affection of the stomach" is reached much less frequently than formerly, and that, with the present multiplicity of gastric symptoms, superficial erroneous diagnoses are usually avoided. All these symptoms may be of organic origin or may be traceable to remote reflexes. Aside from the improved roentgen-ray diagnosis, progress in the diagnosis of gastric affections has been made through gastric analysis by fractional withdrawal of the stomach contents. But even with these improved methods of diagnosis it is not always possible to differentiate between gastric neuroses and other conditions. Contrary to the view taken by Leube, he thinks the "nervous stomach" is only one symptom associated with a general nervous condition. For this reason, treatment should include, along with dietetic and hydriatic methods, which have mainly a suggestive effect, also psychanalysis and psychotherapy, although, in their application, exaggeration and lack of discrimination must be avoided. Also the discovery of psychic connections with secretory processes through the mediation of the nerves of the vegetative system and the connection with the electrolytes of the blood and the cells play an important part in this field of investigation. However, endosecretory disturbances and disharmonious conditions affecting the vegetative system may be operative to the exclusion of psychic influences. In addition to definite pathologic conditions as affecting the central nervous system, ulcers of the small intestine and affections of the gallbladder must be suspected in gastric neuroses.

## Marriages

EUGENE JOHNSON STATES, Rochester, N. Y., to Miss Alida Gennifrede Dunham of Batavia, June 3.

WILLIAM A. MICHAEL, Peoria, Ill., to Miss Garnett Groff of Lawrenceville, at Springfield, June 10.

VICTOR R. DACKEN to Miss Joan Deck, both of Casper, Wyo., May 24, at Los Angeles.

JOSEPH H. SHORTELL, Boston, to Miss Louise L. Doherty of Newton, Mass., recently.

DON B. STEWART, Zeigler, Ill., to Miss Alice Carita Alden of Jonesboro, May 15.

JOSEPH E. GATELY to Miss Catherine Neville Stack, both of Baltimore, June 4.

JAMES M. CHRISTIE, Champaign, Ill., to Miss Lucille Burke of Lincoln, May 28.

CHARLES H. POPE to Miss Iva P. Van Pelt, both of St. Louis, May 24.

HERBERT COULSON to Miss Mary Bateman, both of Boston, April 30.

## Deaths

**William Weise Richardson** ⊕ Los Angeles, Northwestern University Medical School, Chicago, 1890, past president of the Los Angeles County Medical Society, member of the Western Surgical Association and the Los Angeles Clinical and Pathological Society, professor of clinical surgery at the College of Medical Evangelists, Los Angeles, served in France, during the World War, on the staffs of the Methodist, California Lutheran, Clara Barton and Children's hospitals, and the Barlow Sanatorium, aged 54, died, June 2.

**Archelaus G. Field,** Des Moines, Iowa, Starling Medical College, Columbus, Ohio, 1854, Medical Department of Columbia College, New York, 1864, member and at one time president of the Iowa State Medical Society, formerly professor of physiology and pathology at the College of Physicians and Surgeons, Keokuk, at one time city physician, county physician, and mayor of North Des Moines, aged 94, died, May 31.

**Macy Brooks,** Philadelphia, University of Pennsylvania School of Medicine, Philadelphia, 1901, member of the Philadelphia Academy of Surgery and the American Urological Association, served in the M. C., U. S. Army, in France, during the World War, aged 51, was killed, June 5, at Alexandria, Egypt, in an automobile accident.

**Floyd Caldwell Shugart,** High Point, N. C., Columbia University College of Physicians and Surgeons, New York, 1915, member of the Medical Society of the State of North Carolina, served in the M. C., U. S. Army, during the World War, aged 33, died, May 30, of pneumonia.

**Martin Clement Barrett** ⊕ Erie, Pa., University of Pennsylvania School of Medicine, Philadelphia, 1913, served in the M. C., U. S. Army, during the World War, on the staffs of the Hamot and St. Vincent's hospitals, aged 35, died, May 24, following a long illness.

**Edward Fitzgerald** ⊕ Bridgeport, Conn., College of Physicians and Surgeons, Baltimore, 1884, city medical examiner, formerly member of the board of health, on the staffs of the Bridgeport and St. Vincent's hospitals, aged 63, died, May 4, following a long illness.

**William Blakemore Hughes,** Little Rock, Ark., Chicago (Ill.) Homeopathic Medical College, 1889, University of Arkansas Medical Department, Little Rock, 1889, member of the Arkansas Medical Society, aged 64, died, May 29.

**Thomas Cromwell Stunkard,** Terre Haute, Ind., Medical College of Ohio, Cincinnati, 1885, member of the Indiana State Medical Association, veteran of the Spanish-American and World wars, aged 62, died, June 2.

**John B. Harvey,** Robertsdale, Ala., Hahnemann Medical College and Hospital, Chicago, 1887, formerly a practitioner in Chicago, aged 67, died suddenly, May 25, of heart disease.

**C L Hackworth,** South Pittsburg, Tenn , Chattanooga (Tenn ) Medical College, 1901, member of the Tennessee State Medical Association, aged 54, died, May 23, at a sanatorium in Chattanooga

**George H Oliver,** Peekskill, N Y , Laval University Medical Faculty, Montreal, Que , Canada, 1881, for twenty-eight years coroner of Franklin County, aged 69, died, June 5, following a long illness

**Harry Marion Rambo** ⊕ Zanesville, Ohio, University of Tennessee College of Medicine, Memphis, 1917, served during the World War, aged 31, died, May 14, in a sanatorium in Denver, of tuberculosis

**Joseph K Cissell,** Loretto, Ky , Louisville Medical College, 1890, member of the Kentucky State Medical Association, past president of the Marion County Medical Society, aged 62, died, June 4

**Nell Elizabeth Ford Stone,** Palo Alto, Calif , Tulane University of Louisiana School of Medicine, New Orleans, 1919, aged 36 died, April 22, at the Children's Hospital, San Francisco, of eclampsia

**Joseph E Powley,** Altoona, Pa , College of Physicians and Surgeons, Baltimore, 1892, member of the board of health, on the staff of the Mercy Hospital, aged 58, died, June 3, of heart disease

**Samuel Dinwiddie Weir,** Terre Haute, Ind , Bellevue Hospital Medical College, New York, 1876, formerly on the staff of St Anthony's Hospital, aged 72, died, May 22, at St. Petersburg, Fla

**Walter Davis** ⊕ Wilkes Barre, Pa , University of Pennsylvania School of Medicine, Philadelphia, 1897, on the staff of the City Hospital, aged 52, died, June 2, of chronic nephritis

**Joseph Vincent Dooling,** St Johns, Mich , Detroit College of Medicine and Surgery, 1899, member of the Michigan State Medical Society, aged 51, died, May 24, of heart disease

**Robert Condit Eddy** ⊕ New Rochelle, N Y , Medical Department of the University of the City of New York, 1884, on the staff of the New Rochelle Hospital, aged 66, died, June 1

**J Frank McGuire,** Alpena, Mich , New York Homeopathic Medical College, New York, 1884, member of the Michigan State Medical Society, aged 66, died, May 17, of gastric ulcer

**Edsil W Bachman** ⊕ Estherville, Iowa, State University of Iowa College of Medicine, Iowa City, 1887, aged 70, died suddenly, in May, at Rochester, Minn , of heart disease

**James B Murphy,** Stillwater, Okla , University of Louisville (Ky ) Medical Department, 1881, member of the Oklahoma State Medical Association, aged 68, died, May 19

**James Dowling Trask,** Highlands, N J , Medical Department of the University of the City of New York, 1877, member of the board of education, aged 72, died, May 19

**Osborn M Wiseman,** Zanesville, Ohio, Starling Medical College, Columbus, 1890, member of the Ohio State Medical Association, aged 64, died, May 29, of heart disease

**John Alexander Nelson** ⊕ Tribune, Kan , John A Creighton Medical College, Omaha, 1906, aged 45, died, May 4, at the Missouri Pacific Railway Hospital, St Louis

**W Arlett Parvis,** Socorro, N M , University of Maryland School of Medicine, Baltimore, 1905, member of the New Mexico Medical Society, aged 41, died, May 27

**L Lafayette Bond,** Denison, Iowa, Rush Medical College, Chicago, 1870, member of the Iowa State Medical Society, Civil War veteran, died, May 28, of carcinoma

**Jacob Riley Etter,** Crawfordsville, Ind , Indiana Medical College, Indianapolis, 1876, member of the Indiana State Medical Association, aged 72, died, May 22

**Raymond Lafevre Hatfield** ⊕ Danville, Ill , Chicago Homeopathic Medical College, 1903, aged 45, died, May 29, in a local hospital of a self-inflicted wound

**Robert Llewellyn Powell,** Belmont, Va , George Washington University Medical School Washington, D C, 1909, aged 38, was shot and killed, May 17

**William H Shipps,** Bordentown, N J , University of Pennsylvania School of Medicine Philadelphia, 1878, aged 74, died, June 1 following a long illness

**Oscar George Frink,** South Shore, S D , Rush Medical College, Chicago, 1891, member of the South Dakota Medical Association, aged 62, died, May 31

**Perry Green Walker,** Owensboro, Ky , Howard University School of Medicine, Washington, D C, 1891, aged 58, died suddenly, May 26, of heart disease

**George Franklin Thomas** ⊕ Cleveland, Western Reserve University School of Medicine, Cleveland, 1906, aged 42, died, May 29, of heart disease

**James Luther Gandy,** Humboldt, Neb , Rush Medical College, Chicago, 1867, Civil War veteran, aged 79, died, May 21, following a long illness

**William Henry Ludewig,** Foley, Ala , State University of Iowa College of Medicine, Iowa City, 1890, aged 71, died, May 18, of angina pectoris

**William Edward Ashman,** Dayton, Ohio, Ohio State University College of Medicine, Columbus, 1910, aged 39, died, June 3, of heart disease

**Harry Paul Greene** ⊕ Brattleboro, Vt , University of Vermont College of Medicine, Burlington, 1908, aged 40, died, June 1, of tuberculosis

**Charles Dilworth King,** Gillespie, Ill , St Louis (Mo ) University School of Medicine, 1905, aged 45, died, in May, at Oakland, Calif

**Archibald Cruickshanks,** Fayetteville, Tenn , Meharry Medical College, Nashville, 1912, aged 54, died, in May, of chronic nephritis

**Orson Lucius Crampton** ⊕ Mobile, Ala , Bellevue Hospital Medical College, New York, 1865, Civil War veteran, aged 81, died, May 25

**John B A Tanguay,** Providence, R I , University of Montreal Medical Faculty, Montreal, Que , Canada, 1869, aged 79, died, May 28

**Georgiana DeVilbiss,** Thurmont, Md , College of Physicians and Surgeons, Keokuk, Iowa, 1897, aged 56, died, June 3, of paralysis

**Thomas B Mulloy,** Newton, Ohio, Eclectic Medical Institute, Cincinnati, 1881, formerly mayor of Newton, aged 68, died, June 2

**Cynthia A Miller,** Mackinaw, Ill , Hahnemann Medical College and Hospital, Chicago, 1884, aged 78, died, May 25, at Morton

**William C Clarke,** Cairo, Ill , Rush Medical College, Chicago, 1895, for eight years city health officer, aged 54, died June 2

**A Edgar Tussey,** McConnellstown, Pa , University of Maryland School of Medicine, Baltimore, 1883, aged 65, died, May 29

**J Algood Selby,** Shreveport, La , Vanderbilt University Medical Department, Nashville, Tenn , 1890, aged 64, died June 1

**George G Case,** Lexington, Neb , Eclectic Medical Institute, Cincinnati, 1881, aged 66, died, May 6, of cardio-renal disease

**Edward H Muncie,** Brooklyn, Eclectic Medical College of the City of New York, 1878, aged 70, died, May 29, of heart disease

**Irvin L Magee,** Venice, Calif , Medical College of Ohio Cincinnati, 1883, formerly city health officer, aged 65, died, May 29

**Jesse Winslow Taft,** Mount Dora Fla , Northwestern University Medical School, Chicago, 1897, aged 52, died, May 24

**Albert Noah Miller** ⊕ East Texas, Pa , Belleuve Hospital Medical College, New York, 1878, aged 67, died, June 4

**William C Baird,** Fulton, Kan , Eclectic Medical Institute, Cincinnati, 1872, aged 88, died, May 15, of senility

**William G McKinney,** Milan Tenn , Eclectic Medical Institute, Cincinnati, 1881, aged 77, died, March 25

**Edward J Davis,** Ontario, Calif , Albany (N Y ) Medical College, 1867, aged 82, died May 6, of erysipelas

**Samuel M Hooper Tyler** ⊕ Louisville, Ky , Louisville Medical College, 1880, aged 68, died May 26

**Flavius J Marberry,** Little Rock, Ark (licensed, Arkansas 1903), aged 65, was shot and killed, May 31

**Julius Sachs,** New York, University of Wurzburg, Germany, 1885, aged 63, died, May 23, of uremia

# The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

## ATUSSIN, PEPTOPROTEASI, PARAGANGLINA VASSALE, FOSFOPLASMINA, ASMOGANGLINA AND ENDO-OVARINA TABLETS NOT ACCEPTED FOR N N R

### Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following report W A PUCKNER, Secretary

The Neother Products Company, New York, requested consideration of the following products of the Instituto Sieroterapico, Milanese, Italy "Atussin," "Peptoproteasi," Paraganglina Vassale," "Fosfoplasmina," "Asmoganglina" and "Endo-Ovarina Tablets"

*Atussin* This is claimed to be an "extract of the subrenal gland" and the labelling leads one to infer that the extract is dissolved in cherry laurel water No statement appears regarding the character of the suprarenal extract, nor is its quantity or the method of controlling the strength of the preparation declared. The following is typical of the claims advanced for the preparation

"This product greatly experimented, has obtained excellent and durable effects in diminishing and stopping rapidly, convulsive abscesses, as well as preventing broncho-pulmonary complications, so frequent in children attacked by whooping cough"

*Peptoproteasi* This, according to the manufacturers, is a "Hydrogliceric Solution of all the Ferments and Kinasis of the Gastric Mucose" and has "high digestive power through the stimulating substances of the gastric functions it contains" No statement is made in regard to the strength of the preparation either in milk-curdling, protein-digesting or starch-digesting power The following is a claim advanced for this digestant

"Because of its high digestive power and because of the stimulating substances of the gastric functionality which it contains, [it] is useful in cases of total gastric *achilia* for atrophy of the mucose, especially if this medicine is given with hydrocloric acid In nervous achilia the peptoproteasi not only will act because of the pepsine contained in it, but also, it will produce an active gastric secretion through a reflective action, that is, not only as a palliative, but also as a specific"

*Paraganglina Vassale* This product is claimed to be the "juice of the medullar cromaffine substance of the subrenal capsules" No information is furnished as to the character of the product, its method of preparation, or of tests and standards whereby its composition may be controlled According to a letter from the Neother Products Co the preparation is "Used in dilation of the stomach, atony of the stomach, in gastro-intestinal atony, costiveness, cutaneous diseases owing to auto-poisoning, etc" No evidence for the efficiency of the preparation in these conditions is furnished

*Fosfoplasmina* This is described as a "direct extract of egg yolk" The label of the package contains the following formula "Ovo laecitinum Gr 0 30, Serum physiologicum Gr 1 20" Although the futility of administering small amounts of lecithin has been fully established (Rep Coun Pharm Chem, 1915, p 122) the makers suggest that this preparation should be administered intramuscularly "in cases of neurasthenia, physical and intellectual exhaustion, chlorosis, anemia, cachexia, and general derangements of the nutrition" The further claim is made "The sterility of all our hypodermic preparations is rendered ascertainable by a chemical revealer of the greatest efficacy, the Tellurito of potassium" It is claimed that Fosfoplasmina contains "the revealer of Gosio, that is the tellurium potassicum in doses of 1 100,000 In this quantity the tellurium not only does not cause harm, but, for its tonical action similar to that of arsenic, it strengthens the value of the remedy" No evidence is submitted, however, of the asserted value of potassium telluride

*Asmoganglina* This the manufacturers call an "extract of the subrenal and hypophysis glands" The label gives the alleged formula as "Princ act partis medullaris gland, surrenalis Gr 0 10, Pr act posterioris hypophisis Gr 0 08, Serum physiologicum Gr 1—" As the active principle of the hypophysis has not been isolated the statement of composition is obviously incorrect There is nothing to show that the strength of the preparation is controlled It is claimed that Asmoganglina "exercises a beneficial action upon the respiratory centers and has been utilized with previous results in bronchial asthma" No evidence is supplied to show why a combination of suprarenal and hypophysis should be given together The circular accompanying the package states "It has a specific action on bronchial asthma" The circular quotes Massalongo as follows "There is no fit of bronchial asthma, however violent it may be, which in thirty or forty seconds cannot be completely overcome by an injection of Asmoganglina"

*Endo-Ovarina Tablets* According to the label each of these tablets contain 0 03 Gm of the active principle of the ovary No information is given in regard to the isolation or the properties of this asserted "active principle" of the ovary The following is typical of the extravagant claims that are made for this ovary preparation

"Ovarian opotherapeutics makes a specific remedy against dismenorrhea, and especially against amenorrhea of girls in puberty, in these cases the preparation is to be given 10 15 days before the menstruation takes place Young girls' chlorosis too is treated efficaciously with ovarian opotherapeutics, which besides having a specific action upon the genital sphere promote the oxidating processes"

The booklet which the Neother Products Co uses as advertising for these various preparations consists of one hundred and fifty-one pages and describes a great many products other than those submitted to the Council The booklet is devoted to "opotherapeutics" which, it is stated, means "cure with juices" The pamphlet presents a jumble of fact and fancy and reads more like a "patent medicine" almanac than a scientific treatise It contains an extensive therapeutic index in which is given the name of the disease and then opposite this, the name of the preparation (or preparations) recommended for that disease For example

"*Anemia*—Endo Splenina, Fosfoplasmina, Nucleoferrina, Zimoferrolo,"
"*Convulsive Cough*—Atussina,"
"*Neurosis Asthenia*—Paraganglina,"
"*Pulmonary Tuberculosis*—Endo Splenina, Fosfoplasmina, Zimargolo, Zimaurolo,"
"*Rachitism*—Nucleina o di Sodio, Endo Ipofisina, Endo Timina, Nucleina"

In some instances circulars wrapped with the trade package, advertise other products

Atussin, Peptoproteasi, Paraganglina Vassale, Fosfoplasmina, Asmoganglina and Endo Ovarina Tablets are inadmissible to New and Nonofficial Remedies because (1) their composition is indefinite or semi-secret, (2) the therapeutic claims are unwarranted, and (3) their recognition would be the means of advertising proprietary products which are not accepted

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**Local Immunity in Infectious Diseases**—According to our conception, vaccine therapy aims less at curing the diseased cells, but rather to the protection of those cells which are still well, that is, those cells which are in jeopardy of attack by the virus In order to employ the vaccine in a rational manner, it should be applied to the region of the receptive cells, for instance, the skin in staphylococcus infection It then tends to render the well cells refractory, that is, to desensitize them and so prevent them from entering into combination with the virus In other words, the mechanism of vaccine therapy is to wall off the infection by rendering the well cells incapable of attack by the virus Vaccine therapy operates, therefore, not by the treatment of diseased cells, as is generally thought, but by the protection of the well ones—A Besredka *Tr Roy Soc Trop Med & Hyg* **17** 356 (March) 1924

# Correspondence

## SUBDURAL FLUID ACCUMULATIONS

*To the Editor* —In THE JOURNAL, May 31, page 1751, Dr Naffziger says, "Subdural fluid accumulation after head injury seems to have escaped the comment of pathologists and surgeons" I called attention to this matter forcibly at the California state meeting, May 17, 1922, and my observations were published in the *California State Journal of Medicine* (**21** 106 [March] 1923) This journal is published in Dr Naffziger's home town, yet he says "The group of subdural accumulations is of special interest and importance and has attracted no attention" As a matter of fact, Sir Charles Ballance lectured extensively on this subject in the years 1899 and 1900, although he did not suggest the expectant treatment propounded in my paper I recollect his demonstration at that time of a number of such cases, all of which had become chronically encysted and had passed beyond the physiologic stage referred to in my paper The point I endeavored to make was that this condition is a natural protective mechanism, as is the fluid in "housemaid's knee' I am sure that if Dr Naffziger looks a little farther and more carefully he will find that this well known fact is not a new discovery

CECIL E REYNOLDS, M D, Los Angeles

## "CEREBRAL ANGIOSPASM"

*To the Editor* —In a communication to THE JOURNAL, May 31, page 1801, Dr Holmes states that the observation of a patient during a cerebral angiospasm, as reported in THE JOURNAL, May 17, page 1608, is not complete, and that the conclusion that the picture is one of cerebral angiospasm on the right side of the brain is not justified by the facts presented He further asks whether one is justified in subscribing to the theory of angiospasm, without giving due consideration to the fact that maintenance of cerebral circulation is dependent on a normal circulating medium at an effective pressure and rate of flow in normal vessels

The question of cerebral circulation, whether dependent on a vasomotor mechanism in addition to the general circulation, or solely on the general circulation, has been a matter of long dispute However, Hurthle (*Arch f die ges Physiol* **41** 574, 1889), François-Franck (*Arch de physiol norm et pathol*, 1890) and others have shown that, after stimulation of the cervical sympathetics, they could produce local constriction or dilatation in the vessels of the brain Weber (*Arch f Physiol* 1908, p 457) used a plethysmograph to study the volume of the brain On stimulation of the cervical sympathetics, of the cortical surfaces, and of various sensory nerves in animals, he observed such changes in brain volume as to lead him to conclude that the brain vessels possess both vasoconstrictor and vasodilator nerve fibers Wiggers (*Am J Physiol* **14** 452, 1905, **21** 454, 1908) perfused an isolated brain within a skull, with an artificial circulation The addition of epinephrin caused a diminution in the outflow of the organ This would mean that the epinephrin caused a constriction somewhere in the circulation If, as some observers believe, epinephrin acts only on smooth muscle innervated by sympathetic nerve fibers, this would indirectly tend to furnish evidence for the existence of such fibers in the cerebral vessels Using the same method, but with direct stimulation of the internal carotid sheath at its entrance into the skull, a similar result was obtained, which points toward the existence of constrictor fibers in the sheath of this artery In view of these experimental facts, one must give some credence to the theory of cerebral angiospasm

The blood pressure before the attack was 150 systolic and 70 diastolic, and remained unchanged following the attack However, when the spasm occurred, there appeared a distinct and sudden left sided hemiplegia, i e, paralysis, signs of pyramidal tract involvement and aphasia, only to disappear before our eyes, while recording the physical findings present during the examination The attack seemed momentary, and, before the sphygmomanometer could be brought into the examining room, the entire picture had already changed It is for this reason that the blood pressure reading could not be recorded during the attack, although it would have had no bearing on the diagnosis at the time

Owing to the extreme rapidity with which the signs and symptoms of this definite left sided hemiplegia left the picture, I cannot agree with a diagnosis of embolus, hemorrhage or thrombosis I cannot account for such a syndrome as being due to a sudden weakening and irregularity of the heart, especially in the absence of any abnormal cardiac history As for the extrasystoles occurring during this attack, let us not forget that arrhythmias may be due to extracardiac influences, acting through the vagus on the sino-auricular node, and are exaggerated by emotional changes and excitation, which the patient undoubtedly experienced at this time

BENJAMIN FINESILVER, M D, New York

# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer s name and address but these will be omitted on request

## GLUE FOR TRACTION IN FRACTURES

*To the Editor* —Please give me a formula for skin glue — something with which I can fasten strips of gauze or adhesive to limbs in order to make traction

PIERRE HIGGINS, M D Fort Worth, Texas

ANSWER —According to Sinclair's formula (*U S Naval M Bull* Special No 65 January, 1919), 4 ounces of glue is placed in 4 pounds of cold water and left in a cool place for twelve hours If the glue dissolves, it is bad, if it is coherent and gelatinous, weighing 8 ounces, it is good, if coherent and gelatinous, weighing 16 ounces, it is very good, if coherent and gelatinous, weighing 20 ounces, it is excellent Fifty parts of good glue is soaked for twelve hours in water, 50 parts, glycerin, from 4 to 6 parts, and menthol, 1 part, and then melted on a water bath After neutralizing to litmus with sodium hydroxid, as commercial glue at times contains free hydrochloric acid there is added 4 parts in summer and 5 parts in winter of glycerin, and 1 part of menthol Frequent heating evaporates the water, which should be added from time to time When reheated many times, adhesive power is lost The technic is as follows

1 The skin is not shaved

2 The skin is washed with soap and hot water that contains about 4 drams of washing soda to the pint, to convert the oil of the skin into soap, as glue will not adhere to a greasy surface

3 The skin is dried

4 The warm glue is applied evenly, all the hairs of the limb being brushed in an upward direction

5 A tension should be kept on the gauze all the time, it should be brought quickly but carefully into contact with the limb (inner and outer surface) and a loose woven bandage applied neatly, starting a hand s breadth above the malleoli up to the joint

6 When dry, traction is applied

(The adhesive can be made waterproof with a 2 per cent solution of potassium bichromate applied in the dark and then exposed to the light, or by means of liquor formaldehydi )

7 The extension must always be applied very carefully, whether with Maw s elastic cotton net or with gauze

8 The extension must be changed at once if the patient complains of a tickling or burning sensation under it, but it

generally requires changing about the tenth, twentieth or fortieth day

In THE JOURNAL, Sept 27, 1919, p 973, Dr W F Cunningham describes a new adhesive material for this purpose, which he believes superior to the Sinclair formula It consists of a solution of celloidin in acetone, which is thus prepared

The required amount of celluloid scrap and acetone are placed in a *dry*, clean, wide-mouthed bottle and securely stoppered The bottle is then shaken or agitated at intervals and the solution is ready for use in from twenty-four to forty-eight hours When properly made, it should be an almost clear, homogeneous, syrupy fluid In the experiments, no careful preparation of the skin was made It should, however, be absolutely dry and the preliminary use of a few cubic centimeters of acetone in the region to be employed may aid in this respect, but is not necessary A layer of celluloid solution is rapidly applied by means of a small, stiff brush The quantity should be sufficient to soak through the strip on which traction is to be applied, and a thin coating should be applied externally to get out all the wrinkles and air bubbles Canton flannel is the best material for strips, but a double layer of gauze or muslin that is neither too hard nor too finely woven may be used

Iodin and also picric acid and alcohol should be avoided as far as possible on areas to which any type of adhesive is to be applied Both these drugs increase exfoliation, and we well know the reaction of certain skins to the former We believe, with Sinclair, that the part should not be shaved before adhesive material is applied, for the hairs, if abundant, increase the efficiency of the adhesive, like hair in plaster If there is delay in putting on the strip, the skin should be recoated, for it dries out in a thin, flexible film in a minute or two The application of a circular gauze bandage over cotton increases the effectiveness of adhesion and should be used It is needless to state that the solution is combustible, therefore it should not be heated, and containers should be so labeled

## SENSITIVITY TO ADHESIVE TAPE

*To the Editor* —A female patient had both feet strapped by a chiropodist, who used adhesive tape That night the feet itched intensely, and next morning were much swollen Removal of the strapping revealed the condition of the underlying skin different from that usually found, namely, small vesicles, which clear up under a dry dressing Here the tissues were markedly inflamed indurated, raised about one quarter inch, very tender, and covered here and there with varying sized vesicles, which, when ruptured, discharged a thin, sticky substance The condition has been obstinate Treatment with calamine lotion with 2 per cent phenol (carbolic acid) as a wet dressing increased the itchy condition, as also a sodium bicarbonate wet dressing Solution of aluminum acetate in the weakest dilution was impossible as the patient complained that it made her foot 'burn" so severely that she could not continue with it The condition has healed slowly the area of healthy skin has a deep dark brown pigmentation, and one denuded area is obstinate and shows no tendency to heal Have any similar cases been reported? The cause probably lies in an idiosyncrasy to adhesive tape or some irritant in the gum substance

GEORGE H JANTZEN, M D, Queens, L I, N Y

ANSWER —We know of no similar cases Such a thing might be produced by a vascular disturbance, such as thromboangiitis obliterans or Raynaud's disease, but in these cases there would exist evidences of bad circulation in the extremities It might also be produced in a patient who had epidermolysis bullosa Such a patient would give a history of blistering or other injury of the skin from unusually slight irritation The same thing, of course, might be produced by excessive pressure from strapping That would also be accompanied by cyanosis There appear to be no records of cases of sensitization to adhesive plaster

## DOSAGE OF THYROID EXTRACT

*To the Editor* —I wish to give a dose of thyroid extract to a child 3 years old, weighing 36 pounds, suffering with hydrocephalus What size dose shall I give, and how often?

JOSEPH HALTON, M D, Sarasota, Fla

ANSWER —Thyroid effects are generally obtained by the administration of Dried Thyroids, U S P (Thyroideum Siccum) There is no fixed dose of thyroid for children of any definite age or weight It must be determined in each case, as the amount of thyroid secretion in the individual or its deficiency varies greatly A safe initial dose for a child 3 years of age would probably be 0 015 gm (one-fourth grain) of dried thyroids two or three times a day The average dose might perhaps be represented by the rough rule to give 0 06 gm (1 grain) twice daily for a child under 1 year, and to add 0 03 gm (one-half grain) for every year up to 5 As much as 0 3 gm (5 grains) and even 1 gm (15 grains) of dried thyroids have been given twice daily

The best way is to start with a small dose and gradually increase it until either satisfactory improvement or symptoms of intolerance manifest themselves These symptoms, somewhat in order of frequency, are diarrhea or gastric irritability, undue restlessness, at times, uncontrollable screaming, and a rise in pulse frequency and in temperature Whenever the temperature, which in cretinism often is subnormal, has risen by 2 to 3 degrees F, the dose should be diminished A tendency to fainting should be looked out for, as this is a condition that may appear without any of the other signs or symptoms Of course, the most scientific way of determining and controlling the dose is by a study of the basal metabolism

As soon as the desired effect has been obtained or symptoms of intolerance manifest themselves, the frequency of doses may be reduced to once a day, then alternate days and finally every third day

## CHLORIN GAS FOR COLDS

*To the Editor* —Can the Association give me any data on chlorin gas for colds and if so, kindly give methods in which to use the same? I notice the space given to it in the daily papers, and have had many inquiries regarding it

J M SUTTON, M D, Lincoln, Kan

ANSWER —The only available article that has appeared in scientific medical literature regarding the method of treating colds with chlorin gas is that which appeared in THE JOURNAL, March 8, 1924, p 764, entitled "Chlorin as a Therapeutic Agent in Certain Respiratory Diseases," by Drs E B Vedder and H P Sawyer

## LONGEVITY OF BACTERIA

*To the Editor* —Where may one obtain information regarding the longevity of certain disease-germs—for example, foot-and mouth disease, anthrax smallpox, typhus, plague bubonic and pneumonic, etc? I have read that anthrax has been frequently communicated to paper mill workers engaged in sorting rags from ports thousands of miles distant, this if true, would certainly imply prolonged viability of the anthrax bacillus Also I have read that the modern street construction in London, involving the opening of ancient burial pits of plague victims, has sometimes resulted in outbreaks of disease Also that in the great epidemic of pneumonic plague in Siberia about 1903 1904, the frozen bodies of the victims were piled on the frozen ground to await the spring, when burial would be easier, and that such deferred burial was often attended with fresh outbreaks This would imply that the plague bacillus defies prolonged frost These statements were on newspaper authority only

R B

ANSWER.—The essential facts at hand regarding the longevity of pathogenic germs are accessible in current text books on bacteriology and clinical medicine Jordan's General Bacteriology is recommended especially, because of its reliability

The prolonged viability of the anthrax bacillus depends on the fact that its spores are among the most resistant of all bacterial forms Anthrax spores are known to resist drying for at least ten or twelve years, they withstand the action of sunlight, heat and ordinary germicides much better than the bacilli themselves, fed to animals, spores may lead to infection while feeding spore-free cultures are without effect because the bacilli are killed in the stomach

Not only may human infection result from handling contaminated hides, etc, and the use of contaminated shaving brushes, but several outbreaks of cattle anthrax have been traced to overflowing of pastures by streams draining tanneries, in which hides from countries where anthrax prevails were worked up

The pest bacillus is easily destroyed by sunlight and disinfectants, and disappears speedily in the soil and in cadavers that are buried Cultures in sealed tubes may live for years in the icebox There is no evidence that outbreaks of the disease have resulted from the opening of old burial pits Frozen bodies of plague patients might become the source of infection under special conditions, but the fact remains that pneumonic plague is essentially a droplet or respiratory infection, and that bubonic plague practically always is transmitted to man from rats by the rat flea

Comparatively little is known about the resistance of the unknown virus of smallpox, and the same is true of the virus of typhus, which is transmitted to new victims by the body louse

# Medical Education, Registration and Hospital Service

## COMING EXAMINATIONS

ALABAMA Montgomery, July 8 Chairman, Dr S W Welch, Montgomery
CALIFORNIA San Francisco July 7 10 Sec, Dr Charles B Pinkham, 908 Forum Bldg Sacramento
COLORADO Denver July 1 Sec, Dr David A Strickler, 612 Empire Bldg, Denver
CONNECTICUT Hartford, July 8 9 Sec, Regular Board, Dr Robert L Rowley, 79 Elm St Hartford
CONNECTICUT New Haven July 8 Sec, Homeopathic Board Dr Edwin C N Hall, 82 Grand Ave, New Haven Sec Eclectic Board, Dr James E Hair 730 State St New Haven
DISTRICT OF COLUMBIA Washington July 8 Sec, Dr Edgar P Copeland, Apt 104 Stoneleigh Court, Washington
HAWAII Honolulu July 14 17 Sec Dr G C Milnor 401 Beretania St Honolulu
ILLINOIS Chicago, June 24 27 Supt of Regis, Mr V C Michels Springfield
INDIANA Indianapolis July 8 10 Sec, Dr William T Gott No 333 State House Indianapolis
MAINE Augusta July 15 16 Sec, Dr Adam P Leighton Jr, 192 State St, Portland
MASSACHUSETTS Boston July 8 10 Sec, Dr Charles E Prior Room 144, State House Boston
NEW MEXICO Albuquerque, July 14 Sec Dr W T Joyner Roswell
NEW YORK New York Albany, Syracuse Buffalo June 23 26 Chief Education Department Mr Herbert J Hamilton Albany
NORTH CAROLINA Raleigh June 23 Sec, Dr Kemp P B Bonner, Raleigh
NORTH DAKOTA Grand Forks, July 1-4 Sec, Dr G M Williamson Grand Forks
OKLAHOMA Oklahoma City, July 8 9 Sec Dr J M Byrum Shawnee
OREGON Portland, July 1 3 Sec, Dr Urling C Coe, Stevens Bldg, Portland
PENNSYLVANIA Philadelphia and Pittsburgh, July 8 12 Sec Dr George Becht Harrisburg
RHODE ISLAND Providence, July 4 5 Sec, Dr B U Richards State House Providence
SOUTH CAROLINA Columbia June 24 Sec, Dr A Earle Boozer, 505 Saluda Ave, Columbia
SOUTH DAKOTA Sioux Falls, July 15 Director, Division of Medical Licensure, Dr H R Kenaston, Bonesteel
UTAH Salt Lake City, July 1 Director of Registration, Mr J T Hammond, Salt Lake City
VERMONT Burlington June 25 27 Sec, Dr W Scott Nay, Underhill
WASHINGTON Olympia July 8 Sec, Mr Wm Melville, Olympia
WEST VIRGINIA Martinsburg July 8 Sec Dr W T Henshaw Charleston
WISCONSIN Milwaukee, June 24 26 Sec, Dr J M Dodd, 220 E Second Street, Ashland

## THE FUNDAMENTAL REQUIREMENTS OF AN EFFICIENT ROENTGEN-RAY SERVICE IN HOSPITALS

JAMES T CASE, M D
BATTLE CREEK, MICH

A roentgen-ray department requires equipment more or less complete according to the service it is expected to render If it is expected merely to make "pictures" of dislocations and fractures, possible kidney stones or other opaque foreign bodies, the thorax, and other conditions in all of which the referring physician or surgeon feels himself perfectly able to make the interpretation, the equipment and personnel need not be very extensive, if the staff members desire to utilize the roentgen-ray aid available in a well equipped hospital to the fullest degree possible under modern conditions, a generous equipment, plenty of space and adequate personnel, both medical and technical, are absolutely necessary

### EQUIPMENT

It is needless to list the individual roentgenologic instruments required other than to say that an adequate roentgen-ray service demands a complete roentgenographic equipment (interrupterless transformer with a capacity of 75 or more milliamperes, a tube stand, a table and provision for stereoscopic roentgenograms of various parts, including the chest), fluoroscopic equipment for study in both the horizontal and the vertical position, viewing box, stereoscope, and a dark room for the loading and development of films For occasional roentgen-ray treatments, the roentgenographic equipment may ordinarily be employed, but when there is much therapeutic work to be done, a separate room and separate equipment should be made available Modern deep roentgen ray therapy requires the installation of an apparatus capable of delivering to the tube a minimum of 4 or 5 milliamperes at 200,000 volts[1]

There is now generally available generating apparatus not only capable of delivering the 200,000 volts at 5 ma current needed for deep therapy, but also available for ordinary roentgenographic work, thus economizing space and apparatus For small hospitals this generator may serve both the roentgenographic and the treatment rooms

There is no question that the roentgenographic apparatus generally supplied up to three years ago (10-inch gap machines) may be employed satisfactorily for many roentgen-ray therapeutic purposes, especially in the treatment of superficially seated malignancies, various skin lesions, tuberculous glands and joints, and certain blood disorders, and even in the treatment of fibroids and some other causes of menorrhagia, but for deep therapy, in its true sense, as now employed at 200,000 volts or more, a specially constructed deep therapy apparatus must be supplied

The matter of intensifying screens is an item of no small importance in roentgen-ray equipment The initial outlay for screens is fairly large, but their careful and economical use leads to a great saving in tubes and a very marked improvement in the quality of those exposures which must be done more or less instantaneously to be of value

The space in which to assemble and use the equipment is one to which too often only scant thought is given Even in many of the larger hospitals today one finds all the different instruments outlined above crowded into such small space that it is difficult to pick one's way between the various pieces of apparatus It is a wonder that we hear of so few accidents occurring in roentgen-ray departments Some of these few, however, have been tragic In some quarters there seems to be a hold-over of the idea of fifteen or twenty years ago that the roentgen-ray department, being more or less analogous to the photographic department, requires only one or two rooms for its functioning, and as new equipment has been acquired, it is thrust into the old cramped quarters Hospital directors who begrudge the space demanded by the roentgenologist would do well to visit such institutions as the Battle Creek Sanitarium, the Mayo Clinic, and the University Hospital at Ann Arbor, indeed, almost any one of the larger teaching hospitals, to realize the importance conceded to the roentgen ray as demonstrated by the generous space allotted to this department

It may be more or less tentatively stated that a hospital of fifty beds should have at least 400 square feet of floor space devoted to roentgen-ray work Up to 150 beds, there should be not less than 650 square feet of floor space divided into rooms for treatment, roentgenography and fluoroscopy, dark room and office Larger hospitals should have from 1,200 to 3,000 square feet, including treatment rooms, roentgenographic and fluoroscopic rooms, office, film loading and developing room, film consulting room, filing room, lavatories and waiting room, and a work room for mechanical developments University and teaching hospitals need more space for the provision of the necessary equipment for teaching purposes

It would be axiomatic to declare that no amount of luxurious equipment will make up for the lack of a competent physician-roentgenologist, or that the roentgenologist cannot render a

1 Since Aug 1 1923 I have had the privilege of employing a very powerful roentgen ray tube Thanks to the inventor we have the first water-cooled Coolidge tube released for clinical use This powerful tube is declared by the inventor to permit the employment of up to 50 ma at a maximum of 250 000 volts sustained output continuously from one tube In our actual work we have used only 30 ma at this high voltage It is apparent that this type of tube bids fair to displace the air cooled tube nowadays commonly employed in deep therapy

full measure of usefulness to the staff without adequate facilities. Furthermore, it is self-evident that the type and arrangement of the equipment will differ in the different classes of special hospitals, for the roentgen-ray department is but one of the clinical diagnostic departments, and the proper perspective must be maintained according to the ability of the hospital board to equip and staff its various sections.

### ORGANIZATION

The hospital of fifty beds or more should certainly have a physician specializing in roentgenology. He may be only a visiting roentgenologist, having other work elsewhere, and in smaller towns he will probably be a man who devotes only part of his time to roentgenology, combining it with nose and throat work, anesthesia, pathology, radium therapy or some other specialty.

There are in the United States and Canada something like 2,000 hospitals of fifty beds or more. Are there available 2,000 physicians with special training in roentgenologic work to take charge of the roentgen-ray services in these hospitals? In the evident absence of any such number of available roentgenologists, it is recognized that in small hospitals, especially those situated in the smaller communities, no physician is available, however ideal it would be to have one. The staff members send their patients for roentgenologic study, each reading his own film records, and making his own fluoroscopic studies, if, indeed, any are made.

It is manifestly impossible and unthinkable to permit or expect any one but a physician to undertake the interpretations of the roentgen-ray findings with any hope of transmitting to the clinician all the help which the roentgen ray is capable of giving. There have been some notable exceptions to this statement, but they have numbered very few indeed, and with the ever widening field of roentgen-ray application, the usefulness of any one but a graduate physician for roentgen-ray interpretation is steadily decreasing. Even in the small community, where nowadays each physician makes his own interpretations, it would be not only ideal but in thorough sympathy with the principle of hospital standardization and mutual cooperation between physicians thereby involved, if the agreement could be reached that one of the physicians in the community should devote special attention to roentgen interpretation and act as consultant in this capacity. Even under these circumstances, the members of the hospital staff should not hesitate to avail themselves of consultation with roentgenologists more favorably situated in large centers, whose opinion could be obtained by sending roentgen-ray records and clinical data for consultation.

A hospital of 150 beds or more should not be considered completely staffed without a physician-roentgenologist who devotes full time to his work. He may devote his services to more than one hospital, but his major time and thought should be devoted to perfecting himself in his roentgenologic work and to reaching out into new lines of roentgen-ray development. He may spend only a few hours a day in the hospital, and the rest of his time in his office outside the hospital, or the hospital may wisely arrange for his private work to be conducted in the institution. Still larger hospitals should have the full time services of a physician-roentgenologist. Especially in this type of institution the roentgenologist may advantageously combine his roentgen-ray work with radium therapy and the various surgical procedures that are more commonly involved in the application of radium.

### TECHNICAL HELP

The roentgen-ray technician should never attempt to extend his activities beyond the technical work into the domain of diagnosis. No matter how competent he is, it is manifestly no more proper for a roentgen-ray technician to attempt the interpretation of roentgen-ray findings than for a competent surgical nurse to undertake surgical operations. I have no doubt that there is here and there a surgical nurse who, under favorable conditions, could safely amputate a finger or a foot, or even a limb, or possibly remove the appendix, but this surgical nurse would be the last one to wish to undertake such a venture. Diagnostic work lies outside the province of the technician, whose interests and training should be centered on the care and manipulation of roentgen-ray equipment. His or her time will be more than fully occupied with the problems of the ever sought, but never attainable, perfection in roentgenographic technic.

Naturally, the roentgen-ray technician's work deals with roentgenography, not with fluoroscopy. A well trained technician will have a knowledge of the fundamentals of electricity, the principles of construction of roentgen-ray apparatus of various kinds and the care of the apparatus, the physics of light, a sufficient familiarity with anatomy intelligently to "place" his patient for examination, and an accurate knowledge of the exposure and development of roentgenographic films. Proficiency in this technic was formerly much more difficult of attainment when gas tubes, mercury breaks and other forms of interrupters, coils and static machines were employed, but, nowadays, the roentgen-ray equipment has become sufficiently standardized to permit standardization of roentgenographic technic.

A concerted effort should be made to establish a standard of training for roentgen-ray technicians, and provision should be made for proper certification of this training when it has been attained. In the smaller hospitals, one technician will suffice for all the manipulative work in the roentgen-ray department, and he or she may also be trained to do the clinical medical photography needed in such a hospital. Larger hospitals have the technical work divided among several helpers. In the highest type of roentgen-ray department there will be a place for a trained physicist to aid in the development of the technical roentgen-ray work and act as a guide in the technical aspects of research work in radium and roentgen-ray therapy.

### INTERPRETATION OF FINDINGS

The technical work of the roentgen-ray department, including the production of the roentgenograms and the setting in operation of the fluoroscope, is but the preparation for the real medical work of the department, its real *raison d'être*, namely, the interpretation of the findings. The work of interpretation constitutes real medical roentgenology, and it must be done by a physician. The better the technicial work, the richer will be the roentgen-ray findings in information for the medical roentgenologist to interpret. The greater his training, the richer his clinical experience, the fuller his devotion to his work, the more will the medical roentgenologist see in the film and screen records of the case. Some do the fluoroscopic examinations in a perfunctory manner because they obtain from them little help, but the enthusiastic, well trained, experienced clinical roentgenologist will find in the screen study of his patient a veritable mine of information, and his ingenuity will constantly show him ways to reach out into yet unexplored fields.

The average physician of today is not well fitted to undertake roentgen-ray interpretation. This may be said even of many men into whose hands the roentgenologic interpretation is at present confided, but there are outstanding figures scattered over the country, and by no means all connected with large hospitals, who are by nature, education, previous experience in pathology, surgery or clinical medicine, as well as special training in roentgenology, armed with the necessary clinical knowledge to aid them in their technical work.

Unfortunately, there are in this country not many organizations interested in the preparation of roentgenologists. In

England, the University of Cambridge and the University of Liverpool have now established courses covering a year, leading up to an examination and a diploma in medical radiology and electrology I hope the day will come when similar arrangements will be provided in North America It would be a great help not only to roentgenology but to surgical and medical work in general if two or three universities, for instance, Pennsylvania, Toronto and California, would establish courses giving the necessary training in physics and technic and the clinical applications leading up to a similar diploma

Roentgen-ray interpretation must be done by a physician who has had special training, if the roentgen rays are to be utilized to the fullest degree The gynecologist, for instance, in making a bimanual examination of the pelvic organs, visualizes what he feels In his mind's eye, he pictures in flesh and blood the mass which may be due to ovary, tube, fibroid, cyst, etc In a similar way, the roentgenologist-interpreter must visualize in flesh and blood what he sees in shadow—not a crater, a defect, a displacement, an enlargement, a contraction, a thickening, a light or a shadow, but the actual lesion He must see the ulcer, the cancer, the tumor, the stricture, the cavity This is relatively impossible without a basis of experience in pathology or surgery

The roentgen-ray department is not engaged in work of a kind in which the answer to the problem is found by looking up certain formulas or watching for the development of certain reactions, for the reactions when obtained (i e, the film or screen image) still require interpretation This takes the roentgen-ray work out of the general class of laboratories and puts it among the examining departments, such as the urologic, ophthalmologic and electrocardiographic Indeed, it might be better if the term "roentgen-ray laboratory" were abolished and we spoke of the "roentgen-ray department" or the "roentgen-ray examining department" The primary object of a roentgen-ray department is not to make "pictures" but to supply information

Much of the work leading to the production of this information should be done with the fluoroscopic screen We see much fluoroscopy done in a perfunctory manner without any real appreciation of the value of its method In many hospitals, the gloved hand of the examining physician is never placed beneath the fluoroscopic screen The value of visualized palpation by the protected hand slipped under the fluoroscopic screen cannot be fully appreciated by one who has not done it The ability to move the stomach, the bowel, to watch the excursions of the diaphragm, the beating of the heart, the ever changing shadows when one rotates a patient under the fluoroscopic screen, to observe the behavior of a joint or a fractured limb under fluoroscopic manipulation—all constitute advantages available under screen examination which cannot be overlooked or set aside As hinted in an earlier paragraph, the circumstances may be such in some hospitals that the individual staff members must interpret their own findings, but here again I wish to suggest that the spirit of mutual help and cooperation will point a way by which at least one member of the staff can acquire special training for interpretation and assist his fellows in their work

In the light of what has been said, it is apparent that the interpretation will be all the more valuable and helpful if the roentgenologist is furnished with the history and such clinical data as are available up to the moment of the roentgen-ray examination The roentgenologist should not be treated as though he were perpetually on examination and each patient sent to him as a catch problem but he should be looked on as a colleague and be provided with every fact likely to assist him not only in the interpretation of the case in hand, but also in his development into a better, broader, and more useful clinician

THE RECORD

The record should be made in writing and should be furnished at least in triplicate—one copy for the attending physician, one copy for the roentgen-ray department, and one copy for the hospital archives Whether or not the patient acquires a copy of this report will depend on the custom of the hospital In the Battle Creek Sanitarium, we feel that the roentgen-ray report should contain only such statements as are susceptible of substantiation by film or screen examination In other words, although the roentgenologist is furnished with all available clinical data to aid him in his interpretations, he must not in his written report overpass the bounds of the roentgenologic findings The report, therefore, constitutes only a part of the clinical examination of the case, and the roentgenologic report, as such, has no business in the hands of the patient The patient surely is entitled to a written summary of his case, this summary to be made by the clinician in charge of the case In this summary, the roentgen-ray report should find its proper place

To whom do the films or plates belong? Surely not to the patient, for he pays not for a "picture" but for an examination, and he is no more entitled to the "pictures" than he is entitled to the cover slides containing the microscopic sections of tissue in his case, or the smears of blood used for making ordinary or differential blood counts The roentgen-ray films constitute only a part of the examination and really form a necessary part of the record If we say that he is entitled to a copy of his roentgen-ray "pictures" merely because the roentgen-ray records are susceptible of being printed, why not extend the idea and give the patient a photograph of the proctoscopic or vaginal findings or a photograph of the eye-ground or the larynx or the pharynx? A relatively small outlay of cash will provide apparatus for making photographs in connection with proctoscopic, vaginal, cystoscopic and other similar examinations, and so on *ad absurdum* As a matter of fact, the roentgen-ray films belong to the hospital where the patient's records are kept Prints or films in the hands of patients lead only to false interpretations, confusing opinions, multiplicity of advice, and bad results Wise laws are being passed in a number of states and provinces requiring the hospital to retain their roentgen-ray films for two years or more

A film library should be organized and cross-indexed It would be a very valuable thing if every hospital would have a film library of, say, 600 to 1,000 films, the library to be limited to this number of films, the films properly sorted out and classified according to the pathologic findings shown I would suggest that the number of films be strictly limited and that no additions be made except where the additions are superior in quality or in rarity of lesion to films already in the collection which will be discarded for the new ones Such a library, cross-indexed and with suitable notes, will prove of great value to the staff in many ways

Frequent discussions concerning the work will be necessary, and, in my experience, as regards roentgen-ray work they are seldom lacking A certain number of staff meetings each year should feature the roentgenologic work. The science of roentgenology is almost as broad as medicine itself, and every department should participate in the discussions

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### Colorado January Examination

Dr David A. Strickler, secretary, Colorado Board of Medical Examiners, reports the written examination held at Denver Jan. 8 1924 The examination covered 8 subjects and included 80 questions An average of 75 per cent. was required to pass Of the five candidates who took the physicians and surgeons examination, three including one osteopath, passed, and two, including one osteopath, failed Nine

candidates were licensed by reciprocity, and one by endorsement of credentials The following colleges were represented

| College | PASSED | Year Grad | Per Cent |
|---|---|---|---|
| St Louis College of Physicians and Surgeons | | (1922) | 75 3 |
| University of West Tennessee | | (1922) | 75 |
| Osteopath | | | 80 8 |

| College | FAILED | Year Grad | Per Cent |
|---|---|---|---|
| University of West Tennessee | | (1918) | 63 1 |
| Osteopath | | | 70 |

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| Denver and Gross College of Medicine | | (1910) | Illinois |
| Georgetown University | | (1922) | Dist Colum |
| National Medical University, Chicago | | (1898) | Illinois |
| University of Indiana | | (1923) | Indiana |
| University of Michigan | | (1922) | Michigan |
| University of Minnesota | | (1915) | S Dakota |
| Marquette University | (1912) Wyoming, | (1913) | Wisconsin |
| University of Budapest, Hungary | | (1914)* | Iowa |

| College | ENDORSEMENT OF CREDENTIALS | Year Grad | Endorsement with |
|---|---|---|---|
| Johns Hopkins University | | (1922) | N B M Ex |

* Graduation not verified

### District of Columbia January Examination

Dr Edgar P Copeland, secretary, District of Columbia Board of Medical Supervisors, reports the oral and written examination held at Washington, Jan 8-10, 1924 The examination covered 16 subjects and included 80 questions An average of 75 per cent was required to pass Of the nine candidates examined, seven passed and two failed Three candidates were licensed by reciprocity The following colleges were represented

| College | PASSED | | Year Grad | Per Cent |
|---|---|---|---|---|
| Georgetown University | | | (1923) | 83 2 |
| George Washington University | | | (1922) | 76 3 |
| Howard University | | | (1922) | 83 1 |
| Johns Hopkins University | (1921) | 88 8 | (1923) | 86 1 |
| University of Virginia | (1920) | 89 5, | (1923) | 84 2 |

| College | FAILED | | Year Grad | Per Cent |
|---|---|---|---|---|
| Howard University | (1921) | 69 8, | (1922) | 70 3 |

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| Howard University | | (1898) | Ohio |
| Chicago Homeopathic Medical College | | (1884) | Iowa |
| Meharry Medical College | | (1906) | Texas |

### Iowa January Reciprocity Report

Dr Rodney P Fagen, secretary, Iowa Board of Medical Examiners, reports that twelve candidates were licensed by reciprocity at the meeting held at Des Moines, Jan 14, 1924 The following colleges were represented

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| Northwestern University | (1909), | (1920) | Illinois |
| Rush Medical College | | (1905) | Illinois |
| Kansas Medical College | | (1913) | Kansas |
| St Louis University School of Medicine | | (1922) | Missouri |
| University of Minnesota | | (1920) | Minnesota |
| John A Creighton Medical College | | (1901) | Nebraska |
| University of Nebraska College of Medicine | (1918), | (1922) | Nebraska |
| University of Cincinnati College of Medicine | | (1921) | Wyoming |
| Western Reserve University School of Medicine | | (1921) | Ohio |
| University of Vienna, Austria | | (1902)* | Kansas |

* Graduation not verified

### Vermont February Examination

Dr W Scott Nay, secretary, Vermont State Board of Medical Registration, reports the written examination held at Burlington, Feb 12-14, 1924 The examination covered 12 subjects and included 90 questions An average of 75 per cent was required to pass Four candidates were examined, all of whom passed Two candidates were licensed by reciprocity The following colleges were represented

| College | PASSED | Year Grad | Per Cent |
|---|---|---|---|
| Georgetown University | | (1923) | 91 1 |
| University of Vermont | | (1923) | 88 4 |
| Montreal School of Medicine and Surgery | Canada | (1907) | 81 3 |
| University of Budapest, Hungary | | (1918)* | 90 1 |

| College | LICENSED BY RECIPROCITY | Year Grad | Reciprocity with |
|---|---|---|---|
| Tulane University | | (1901) | New York |
| Albany Medical College | | (1908) | New York |

* Graduation not verified

# Book Notices

SELECTED ESSAYS ON ORTHOPAEDIC SURGERY From the Writings of Newton Melmah Shaffer, M D, F A C S, Consulting Orthopaedic Surgeon, St Luke's Hospital, N Y With Forewords by Dr Lovett and Dr Fisher, and Comments by Dr Cotton, Dr Nutt, Mr Blagden, and Mr Hardon Cloth Price, $5 Pp 636, with illustrations New York G P Putnam's Sons, 1923

This book is written from the standpoint of an orthopedic surgeon of wide experience, who represents a type of so-called conservative orthopedic surgery It is a monograph consisting of papers written and published since 1877 The author's descriptions of tuberculosis of the hip and of the ankle joint, the former written in 1877, and the latter in 1882, are both clear and concise expositions, and are just as valuable today as they were when written He reveals an unusual knowledge of the mechanical principles involved in tuberculous and other diseases of bones and joints, and exhibits unusual skill in the application of splints and braces used in the treatment of such conditions The book consists of four parts the first part on the spine, the knee, and reflex muscular contraction, the second, on hip and ankle joint diseases, the third, on clubfoot, flatfoot and nondeforming clubfoot, the fourth, on miscellaneous subjects, such as ununited fracture of the femur, elongation of the ligamentum patellae, dislocation of the semilunar cartilage of the knee, the treatment of arthritis of the knee, and hysteria as seen in orthopedic surgery One is impressed by the writer's clear conception and deep conviction of the necessity of protecting joints affected by chronic disease from all forcible manipulation He recommends correcting force in the line of contracture and gradual change in position of the limb as improvement occurs In his paper on lateral curvature of the spine, written in 1880, there is given a classical description of the salient features of scoliosis, from both the clinical and the pathologic points of view, In his paper on Pott's disease, written in 1879, he gives an excellent clinical pathology of the disease, in which he describes four stages He takes decided issue with the suspension method of treating this condition in order to produce correction He is an ardent advocate of the anteroposterior support as furnished by the spinal brace, and he condemns the application of the plaster-of-Paris jacket He believes that Pott's paraplegia can usually be cured in a large percentage of cases by means of the Taylor spine brace and the recumbent position, adding, however, that if one year of treatment has elapsed the chances of recovery under mechanical treatment are materially lessened In regard to the question of the relationship between trauma and tuberculosis, the author believes that traumatism is not an important factor in the production of chronic joint disease, but only a superinducing one The book is not suited to the needs of undergraduate students, but contains material of definite value to all orthopedic surgeons

PROBLEMS IN TUBERCULOSIS Administration Diagnosis Employment Settlements By Sir James Kingston Fowler, K C V O, C M G M A, Consulting Physician, the Middlesex Hospital Cloth Price, $1 50 Pp 64 New York Oxford University Press, 1923

This gives a short review of the work that has been done in tuberculosis in England It contains chapters on diagnosis, infection, notification and other subjects of interest The author emphasizes the large percentage of error in the diagnosis of tuberculosis of the lungs, as observed in army service during the late war, as well as in dispensaries and sanatoriums The cause of this error, which in some instances amounted to as much as 75 per cent, the author thinks is the practice of refusing to admit tuberculous patients to general hospitals Thus, the young physician has no means of perfecting himself in the study of pulmonary tuberculosis The author observes, "Queer things may happen when a clinician who has scrapped his stethoscope calls in a radiographer who has not been a pathologist Hinc illae lachrymae" Americans would do well to reflect on this The last chapter of the book contains many aphorisms that are worth the reading, for instance "A light occupation in the open air is seldom found" "Do gardeners look particularly healthy?" "When the governing class has learned the A B C of science, more may be hoped for from the general public"

HANDBUCH DER KINDERHEILKUNDE Ein Buch fur den praktischen Arzt Herausgegeben von Prof Dr M von Pfaundler und Prof Dr A Schlossmann II Band Third edition Paper Pp 773 with 210 illustrations Leipsic F C W Vogel 1924

The second volume of this handbook of pediatrics is devoted almost exclusively to a consideration of infectious diseases Prof Bela Schick contributes the first article, on diphtheria This paper is carefully prepared, well illustrated, and that part of the chapter which is devoted to the use of antitoxin is well worth careful reading Schick's studies on this subject have shown that in the mild cases of diphtheria a patient requires only 100 units of antitoxin for every kilogram of body weight, though in this dose the serum produces immunity, not cure In the severer forms, the dose should be increased to 500 units of antitoxin per kilogram of body weight Thus, a child who weighs 20 kg (44 pounds) should receive 10,000 antitoxin units This dosage will neutralize the toxins that have been formed twelve hours previous to injection Furthermore, Schick thinks that the antitoxin acts by diminishing virulence, though even in this dose it does not neutralize the toxin completely On the other hand, he considers that repeated injections are superfluous, because, once the tissues are saturated with serum, everything has been accomplished which the antitoxin can contribute to the cure of the disease

The chapter on scarlet fever, by Prof Arthur Schlossmann and Dr Selma Meyer, is complete in detail The clinical course and the numerous complications are carefully described There are also some interesting mortality statistics, indicating the death rate of scarlet fever in children for a period of years, and also a comparison of the death rate from this disease in various countries We learn that in European Russia the death rate was 168 per hundred thousand inhabitants, in Roumania, 76 8, in England, 6 6, Switzerland, France and Holland, slightly more than 2 The authors consider the treatment in detail They recommend reconvalescents' serum, and they point out that antistreptococcus serum has fallen into disuse in Germany The chapter on measles is contributed by Professor Groer of Lemberg, and Professor Pirquet of Vienna Like the previous chapters, this one is complete in detail, and is profusely illustrated The Degwitz serum as a prophylactic measure receives careful attention The authors, however, do not believe that the serum is of value in treatment They emphasize that it is a prophylactic, and give minute directions for its preparation and use Erythema infectiosum is described by Stoss The same author considers the fourth disease, so-called Dukes-Filatow disease, without adding anything new

There are excellent chapters on typhoid, and an interesting contribution on infectious icterus by Prof J Bauer of Hamburg The same author writes a paper on dysentery Whooping cough is considered by Knopfelmacher This contribution contains a carefully compiled clinical description He submits a list of remedies, and is not convinced of the efficiency of the vaccine treatment He believes that the antispasmodics in some cases give relief He says that quinin has a good reputation and has stood the test of time, and that its use is still advocated by numerous clinicians He suggests the use of diquinin carbonic ester, quinin ethyl carbonate or quinin tannate on account of their less objectionable taste A soluble quinin may be given by suppositories or enemas Knopfelmacher is impressed with the advantages of heliotherapy, and suggests that the quartz lamp may, in some instances, be used with benefit in the treatment of this disease

Congenital syphilis is considered in some detail by Zappert of Vienna The chapter on encephalitis and poliomyelitis is written by J Ibrahim of Jena, is a carefully and concisely written article, and is a valuable addition to the literature

Typhus fever, malaria and Asiatic cholera are considered by Dr Edmund Nobel of Vienna Dr Franz Hamburger of Gratz writes on tuberculosis and scrofulosis Hamburger has been a close student, and is well qualified to write this chapter He considers at great length the method of infection He is fully impressed with the idea that the disease originates in infants and young children as a primary lesion, with secondary lymph node involvement He sees a great similarity between the primary lesion of syphilis and that of tuberculosis in that the entrance of both these diseases into the body is characterized by an initial or primary effect He gives a detailed description of the various tuberculin tests, and discusses the value of each from the standpoint of diagnosis In former years, Hamburger wrote extensively on tuberculosis of infancy and childhood In this paper he has treated the whole subject concisely, and has brought the material well up to date This chapter should constitute an authoritative statement on all matters pertaining to tuberculous infection of infancy and childhood

Considering this volume as a whole, it must be said that it includes a valuable group of articles pertaining to the infectious disorders of childhood The papers are carefully written well illustrated, and this volume, like its predecessor, will constitute an important reference book for students, teachers and practitioners of pediatrics

SURGICAL PATHOLOGY By Joseph McFarland, M D , Sc D Professor of Pathology in the Medical Department of the University of Pennsylvania Cloth Price $9 Pp 701 with 435 illustrations Philadelphia P Blakiston's Son & Co 1924

The original plan of presentation takes up, in Part I, largely congenital conditions, including various tumors related to them, in Part II, tumors in general, and, in Part III, the special pathology of various systems, although little is said of conditions discussed in previous chapters The congenital conditions are taken up in an orderly manner, covering the various systems of the body, with their various defects, persisting structures and anomalies The discussion on tumors is satisfactory The section on special pathology is not so well balanced There is an unusually large space devoted to the mammary gland, which, the author explains, is due to an overwhelming experience in consultations in regard to it The illustrations are numerous and clear, but the majority are reproduced from articles whose authors are quoted in the text A very satisfactory review of the best of the published work has been included A little disappointment is felt at times in the failure of the author to express his own experiences The book covers the subject that every medical student should study, but it is for those beginning to specialize in surgery that the book has chiefly been written It fulfils this purpose

HERNIA AND ITS RADICAL CURE By J Hutchinson F R C S Consulting Surgeon London Hospital Cloth Price $3 75 Pp 264, with 52 illustrations New York Oxford University Press 1923

This small volume is principally devoted to the treatment of inguinal, femoral, umbilical, ventral and obturator hernia Brief consideration is given to fatty hernia, and hernia of the appendix, bladder, stomach and ovary It is surprising to note that the author does not accept the saccular theory of inguinal hernia He advocates nontransplantation of the cord in inguinal hernia operations, and states that local anesthesia should be used only in exceptional cases The chief value of this book lies in the fact that it is the expression of the views and practices of one of the leading English surgeons The case histories that Hutchinson cites, and the experiences that he relates are the result of a long and active surgical practice, and should prove of interest to those doing general surgery

PROBLEMS OF CHILD WELFARE By George B Mangold Ph D Director Missouri School of Social Economy Second edition Cloth Price $3 Pp 602 New York Macmillan Company 1924

The facts and statistics in this book are grouped under five different headings the conservation of life, health and physique, training and education, child labor, juvenile delinquency, and problems of dependent children Mr Mangold views the child through the old telescopes of heredity and environment He admits that little can be done to improve heredity, as in the case of eugenic measures, sterilization and moral instruction, and devotes himself to preventive and constructive methods in use in social work Students of philanthropy will therefore find in his book quick references to existing conditions, such as age in reference to child mortality, and the use of the cottage system in institutional work References at the end of each chapter on the subjects treated

should be helpful Poverty, vice and constitutional ill health, as well as those brighter aspects of the social worker's field, recreation and vocational guidance, are some of the subjects covered New activities, such as school facilities for the especially gifted, and the visiting teachers' movement, are outlined The book arises from ethical conceptions such as "the right to normal life," and "the right to health," rather than from cold economic considerations It has an altruistic tone, which those interested in social measures find pleasing

ENDOSCOPIE OPÉRATOIRE DES VOIES URINAIRES Par F Papin, Ancien chef de clinique de l'Hopital Necker Paper Price, 26 francs Pp 110, with 93 illustrations Paris A Maloine et Fils, 1923

This gives a complete review of all the methods for studying the urethra and urinary bladder by the urethroscopic or the cystoscopic route The aseptic conscience of American surgeons will be somewhat offended by two illustrations in which a woman is shown with a ureteral cystoscope in the bladder and both ureters drained by catheters, the patient wearing silk stockings and a waist, without any aseptic covering of the table or of the body of the patient While the author quotes almost all the urologists who have contributed to the development of endoscopic and cystoscopic manipulations, he reports tables, cystoscopic holders and various vesical instruments as his own, though devised by his predecessors in this work and on the market for many years Some points are further elucidated by the interpolation of histories of pertinent cases Some experienced authors will not agree with Papin that electrocoagulation of vesical tumors is always a painless procedure and does not call for any anesthetizing application In general, this pamphlet furnishes a serviceable introduction to the field of endoscopic and endovesical operation

# *Medicolegal*

### Liability for Both Injury and Malpractice—Sewing Garter Buckle in Wound

*(Parkell v Fitzporter et al (Mo), 256 S W R 239)*

The Supreme Court of Missouri, in reversing a judgment rendered in favor of the defendants, says that this was an action for malpractice in the dressing and treatment of injuries received by the plaintiff from being run on by an automobile driven and owned by one of the defendants, both of whom were practicing physicians and surgeons The defendant who inflicted the injury called the other defendant to the hospital to assist him The defense pleaded was a former recovery from the physician who inflicted the injury, in an action against him founded on negligence in the operation of his automobile The instant case turned on the question of whether the damages caused by the malpractice charged in this case were included in the recovery had in the former case

The duty of a surgeon to bring skill and care to the amelioration of the condition of his patient does not arise from contract, but has its foundation in public considerations which are inseparable from the nature and exercise of his calling Although the relation of physician and patient may be, and is perhaps generally, created by contract, the duty of the physician when he assumes it is fixed by rules that operate independently of its origin He may be employed by a stranger, or take up the burden of treatment for purely humanitarian reasons, yet his duty to have the requisite knowledge and to employ it with the care made necessary by the occasion is to his patient This court knows of no case in which it is held that an action will not lie by the patient against the physician or surgeon for a violation of the duties resulting from the relation, notwithstanding that others have intervened in his employment

This plaintiff had the right to sue the wrongdoer who inflicted the original injury to him by the improper management and operation of his automobile, for the damage necessarily resulting from such injury, and the surgeon who aggravated the injury by negligent or unskilful treatment, and to recover from each the amount of damages resulting from his own act or omission without prejudice to his separate right of action against the other These causes of action are no less separable and distinct when the two wrongs are committed by the same person to the same victim It would be dallying with justice to say in a case of this kind that a physician who injures another, ever so slightly, by running against him with an automobile, and thereafter undertakes to treat the injury, and in doing so inflicts serious and permanent disability by malpractice, could defeat an action for malpractice by showing that his patient had been guilty of negligence contributing to the original injury, yet that effect would seem to follow the conclusion that the malpractice merged in and became a part of the original wrong

In substance, the original petition charged as the injury inflicted by the automobile that the bones of the plaintiff's leg were broken and shattered, and protruded through the flesh and skin, and a metal clasp from his garter, dirt and cinders from the street, and cloth from his clothing were driven into the wounds, whereas the instant petition charged that the defendant physicians negligently and unskilfully sewed these things in the wound, causing infection, gangrene and permanent injuries These circumstances, so far from being necessary results of the injuries stated in the original petition, were entirely independent of those injuries, and were not even admissible in evidence in that case This court finds no difficulty in arriving at the conclusion that the chauffeur who carelessly runs his automobile on another, inflicting a wound into which a metal garter buckle is driven, is guilty of a wrong independent of the wrong done by himself in the capacity of a surgeon in connection with another surgeon in carelessly, unskilfully and ignorantly sewing the garter buckle in the wound, and thereby inducing infection and gangrene, which in turn works permanent disability to the injured party These two cases, that is to say, the action for malpractice in sewing the garter buckle in the wound and the action for negligently producing the same wound, are founded on two separate and distinct causes of action, having no necessary legal connection whatever, and the judgment and satisfaction in the action against the chauffeur does not bar the action for malpractice against these two surgeons

### Evidence of Intent in Dispensing "Morphin"

*(Williams v United States (U S), 294 Fed R 682)*

The United States Circuit Court of Appeals, Fifth Circuit, in affirming the judgment appealed from, says that defendant Williams was convicted of violating Section 2 of the Harrison Narcotic Law, by selling to a named person one-sixteenth ounce of morphin, a compound of opium, not in the regular course of his professional practice as a physician, and not for the treatment of any disease, but for the purpose of satisfying the craving of one addicted to the use of morphin The trial court admitted evidence of other sales and of administering morphin by the defendant to the same person on many other occasions shortly prior to the time of the sale in question It was proper to allow proof that the defendant had either sold or administered morphin on previous occasions, as bearing on his intent A practicing physician does not violate the act in question if he merely dispenses morphin in the course of his professional practice only, but it is a violation of the law for a physician to dispense morphin for the purpose of gratifying the appetites of those addicted to the use of it The evidence of other sales was therefore properly admitted to show knowledge and an unlawful intent A dealer, as distinguished from a physician, is authorized to sell opium or its derivatives only on a written order, and if he has not such order his intent is immaterial

A variance did not arise by reason of the fact that the drug described in the indictment as "morphin" was technically designated by chemists as "morphin sulphate" It was unobjectionable for the indictment to describe the derivative of opium sold as morphin, because it is commonly known by that name The indictment in this case was not at all like that in *Guilbeau* v *U S*, 288 Fed 731, in which the pleader, instead of using a general term in common use, made the description unnecessarily minute

# Society Proceedings

## COMING MEETINGS

American Proctologic Society, New York June 23 25 Dr Joseph F Montague 540 Park Avenue New York Secretary
Maine Medical Association, Portland June 25 27 Dr B L Bryant, 26 Hammond Street, Bangor Secretary
New Hampshire Medical Society Manchester June 24 26 Dr D E Sullivan 7 N State Street, Concord Secretary
Pacific Northwest Medical Association Vancouver B C June 26 28 Dr F Epplen, 422 Paulsen Building Spokane, Wash Secretary

## AMERICAN SOCIETY FOR CLINICAL INVESTIGATION

*Annual Meeting held in Atlantic City N J May 5 1924*

*(Concluded from page 1990)*

### The Amount of Blood in the Lungs

DRS CECIL K DRINKER and JOSEPH T WEARN, Boston A variety of methods have been utilized to determine the total blood volume, and some of these are available for clinical use Similarly, the stroke volume of the heart and rates of circulation have been measured under both clinical and experimental conditions In spite of such advances as are inherent in the possession of these lines of information, we have as yet no knowledge of the amount of blood the lungs actually contain, under even the most simplified types of laboratory experimentation Two years ago, Drinker, Peabody and Blumgart showed that the air space in the lungs of cats could be encroached on readily by blood, and they pointed out the significance of these experiments in explaining reductions of vital capacity in certain cases of cardiac disease As a refinement of this experiment, we have devised a preparation, using the cat, which is essentially a "Starling heart" with the chest of the animal closed With this preparation it is possible to obtain data on the amount of blood the lungs contain under conditions that are apparently quite normal, and on the degrees of increase and decrease this amount may show under different experimental conditions designed to simulate cardiac failure These changes in pulmonary blood volume can be correlated with a number of other measurements, such as cardiac output, pulmonary arterial presure, venous pressure, and air volume of the lungs

### Some Factors Controlling Respiratory Rate

DRS C A L BINGER and G R BROW, and A BRANCH, New York An investigation of the cause of rapid breathing in lobar pneumonia has pointed to the need for the further study of factors controlling respiratory rate It has been shown that anoxemia, change in acid base equilibrium, and reduction in lung volume do not wholly account for the rapid respiratory rate seen in lobar pneumonia Evidence points to the existence of stimuli arising in the lungs and probably traveling up the vagus nerves as being responsible for the accelerated rate of breathing An inquiry has been made into the nature of such stimuli It has been found that obstruction in the pulmonary circulation (associated with reduction in lung volume) occasioned them An investigation has been made into the relation of the rapid breathing resulting from obstruction to the pulmonary circulation (artificially produced in animals) and the consequent anoxemia It appears, in these experiments, that the accelerated respiratory rate and the anoxemia are related to a common cause, still under investigation, and are not essentially dependent on each other

### Observations on Experimental Surgery of the Heart

DRS S A LEVINE, E C CUTLER and C S BECK, Boston A series of experiments has been carried out on cats, dogs and goats, with the purpose of determining various factors that might have a bearing on the development of a technic for operations in chronic mitral stenosis Experiments were first completed with the idea that the entire circulation could be stopped by clamping it off at the base of the heart the ventricle then opened, and the valve divided under direct vision It was found that the heart could recover after ten minutes of such a closed circulation, but that the cortical centers would not stand over three minutes under such conditions Experiments with a small-bladed, curved knife yielded an insufficiency of the mitral valve in a high percentage of animals Experiments with an endoscope carrying a knife did not prove successful in our hands The questionable clarity of vision did not enable us to produce accurate lesions in comparison to the added risk involved Postmortem examination as long as nine months after the operation at which a valvular defect had been created showed that any artificially created defect tends to increase in size with time There occurs retraction from the line of incision, with rumpling and thickening of the cut edge Thrombi did not tend to occur on such healing valves We saw only one thrombus in three years' work, and in that case a fatal septic process complicated the picture The wounds in the pericardium and heart healed rapidly Pericardial adhesions seemed to form only when hemorrhage or sepsis complicated the operation If they became extensive, the clinical picture of an embarrassed circulation with the accumulation of fluid in the abdominal, pleural and pericardial cavities resulted Animals in which insufficiency of the mitral valve was established presented the typical systolic murmur found in similar clinical conditions Attempts to produce a stenosis either by operation (partial ventriculectomy at the auriculoventricular ring with plication), or by the use of implanted radium emanation seeds, have so far failed of satisfactory results These experiments, which show the resistance of the heart to trauma, its ability to heal promptly, and the little likelihood of thrombus formation on the cut valves, lead us to hope that the clinical development of such procedures is justifiable and advisable in certain cases of human mitral stenosis Further experiments have led to the development of an instrument that can remove a portion of the obstructing valve, and the latter method seems to us to offer considerable hope in the attack on the typically stenosed mitral valve with its calcareous deposits and dense fibrous structure

### The Electrocardiogram as an Aid in the Diagnosis of Adhesive Mediastinitis

DR. E P CARTER and F R DIEUAIDE, Baltimore It has been known since the early days of the application of the string galvanometer to the study of the human heart that in normal persons there is a change, usually well marked, in the form of the record as secured in the three usual leads on changing the position of the subject This is especially prominent in turning the subject in the reclining position from one side to the other It was thought that this phenomenon might be of practical use in the diagnosis of adhesive mediastinitis, of which we have no very reliable clinical sign Normal persons and patients have been examined from time to time during the last three years to test this possibility No normal persons in whom there was not a definite change in the form of the electrocardiographic record on rotation of the body have been encountered Five instances were found in which the record showed no definite change In all of these, there were reasons for believing that the patient might have adhesive mediastinitis Two of these patients died and were shown at necropsy to have this lesion Opportunity to examine the other patients did not occur The records of two patients with all the important clinical signs of adhesive mediastinitis showed a definite shift One of these was found at necropsy to have an obliterative pericarditis, and the other to have no lesion of the pericardium The possibility that very large hearts might not show this change has been considered Records of nineteen patients with marked cardiac enlargement showed a definite shift Eight of these were shown by postmortem examination to have very large hearts but no pericarditis

### The Association of Hypertension with Suprarenal Tumors

DRS B S OPPENHEIMER and ARTHUR M FISHBERG, New York The conception that the suprarenal glands may be involved in the production of hypertension was based on the frequent finding of suprarenal hyperplasia in patients with hypertension We have confirmed this But the failure of biochemists to demonstrate hyperepinephrinemia in hyper-

piesia has resulted in the abandonment of this conception We have studied two cases of hypertension, however, in which it seems difficult to deny the relation to suprarenal growths In one adult, diffuse hyperplasia and multiple adenomas — one probably becoming malignant — were actually demonstrated at necropsy, while the other was recognized as one of those extraordinary cases of suprarenal cortical tumor with precocious puberty accompanied by masculine characteristics In searching the literature for confirmation of this view, thirteen cases were found of suprarenal tumor associated with a hypertension for which no other cause was found The tumor may be cortical (hypernephroma) or medullary Of the three varieties of primary medullary tumors — sympathoblastomas, ganglioneuromas and paraganglioneuromas — only the latter are usually associated with hypertension The occurrence of hypertension with both cortical and medullary tumors indicates that it is probably not due to hyperepinephrinemia These fifteen cases are important, for they show that at least a small group of cases of so-called essential hypertension are associated with a disturbance of suprarenal function

### Phagocytosis of Erythrocytes in Pernicious Anemia

DRS FRANCIS W PEABODY and G O BROUN, Boston It is generally recognized that pernicious anemia is associated with an extensive destruction of red blood cells, but the mechanism of this blood destruction has not yet been satisfactorily explained Observations on the presence of hemolytic toxins in the serum and on alterations in the fragility of the erythrocytes fail to account for it adequately It is noteworthy, therefore, that in typical cases of pernicious anemia another process—phagocytosis of red blood corpuscles by endothelial cells—has been found to be so striking that it must necessarily be considered as a very significant factor in blood destruction While hemophagocytosis in pernicious anemia has been frequently described by pathologists, little attention has been paid to its possible role in the disease process It occurs in various organs, but is quantitatively most important in the bone marrow The endothelial cells may be engorged with erythrocytes, and several phagocytic cells are frequently found in a single high power field of a section of bone marrow The phagocyted cells usually contain hemoglobin, and there is little hemosiderin in the bone marrow Phagocytosis is best demonstrated in sections and in smears fixed before drying Phagocytosis of erythrocytes is not the result of blood transfusion

### The Effects of Hemorrhage, Transfusion and Irradiation on the Production and Maturation of Red Blood Cells

DR RAPHALL ISAACS, Boston The last step in the maturation of a red cell is the loss of a brilliant refractive granule (about 0 5 micron in diameter), which can be traced back to the nucleated stage The granules, one to a cell, appear as deep black dots and can be seen in the fresh blood or fixed films, any stain being used In health, about 0 3 to 0 7 per cent of red cells in the peripheral circulation show this granule by itself An increase above 2 per cent suggests an abnormal demand for new red cells in the circulation There is an increase within a few hours after a hemorrhage, a blood transfusion or the beginning of deep irradiation therapy The increase of the red cells appearing in the "granule" stage, accompanied by a decrease in the red cells in the reticulum stage, indicates a good prognosis, sometimes days or weeks before the actual clinical effects are noted A decrease in the cells in the "granule" stage, accompanied by an increase in the cells in the reticulum stage, points to an undesirable progression of the lesion

### Reference of Pain Produced at Different Points in the Esophogus, Duodenum and Proximal Jejunum

DRS CHESTER M JONES, PAUL H MEANS and ROBERT G VANCE, Boston Pain was produced by inflating a balloon on the end of a duodenal tube Localization of the position of the balloon was made by fluroscope In the duodenum and jejunum, pain was localized with surprising exactness, in the esophagus, localization was less exact The pain areas did not correspond in any way to the actual position of the balloon, and did not shift with changes in position of the subject Cutaneous hyperesthesia was *not observed* With few exceptions, pain was always referred to the front in the midline When produced in the esophagus, it was substernal, at the cardiac end it was felt at the level of the sixth rib, and was described as similar to "heartburn" At higher levels it was referred to the midsternum and episternal notch From the upper portion of the jejunum to the pylorus, the referred pain points moved progressively upward from the umbilicus to the xiphoid Small changes in the position of the balloon were followed by definite shifts in the reference of the pain Ulcer, gallbladder disease, and operative scars apparently modified the reference of pain produced below the pylorus The results obtained correspond with the original work of Head and Mackenzie, but are more accurate

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# *Current Medical Literature*

## AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days No foreign journals are available prior to 1920, nor domestic prior to 1923 Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested)

Titles marked with an asterisk (*) are abstracted below

## American Journal of Diseases of Children, Chicago

27 421 539 (May) 1924

*Production of Purulent Meningitis in Rabbits M Kasahara, Kyoto, Japan —p 421
*Production of Tuberculous Meningitis in Rabbits M Kasahara Kyoto, Japan —p 428
*Urobilin Excretion in Anemias of Infants and Children M H Bass, B S Denzer and H Herman, New York —p 433
*Calcium Content of Breast Milk in Relation to Rickets L R DeBuys and L von Meysenbug, New Orleans —p 438
*Subacute Intussusception V C A Bergstrom, New York —p 444
*So-Called Idiopathic Cardiac Hypertrophy in Infancy G L Carrington, Bryn Mawr, Pa, and E B Krumbhaar, Philadelphia —p 449
*Tuberculous Pyopneumothorax in Infant S G Ross and C T Crowdy, Montreal —p 456
Health and Growth of Children in Institution S E Katz and H Gray, Boston —p 464
Morphologic and Quantitative Study of Blood Corpuscles in New Born Period H S Lippman, Minneapolis —p 473

**Experimental Purulent Meningitis**—Kasahara asserts that subdural inoculation of virulent pyogenic organisms (pneumococci, *Bacillus coli, B influenzae, B pyocyaneus,* streptococci and staphylococci) by an atlanto-occipital injection causes purulent meningitis in rabbits The picture of the spinal fluid of the infected rabbit closely resembles that of purulent meningitis in human beings

**Experimental Tuberculous Meningitis**—Subdural inoculation of tubercle bacilli by atlanto-occipital injection produced in the rabbit tuberculous meningitis, followed by paralysis and death The changes in the cerebrospinal fluid were peculiar Albumin and globulin increased in amount, sugar decreased in amount The leukocytes (lymphocytes) were increased in number There was an alteration in the chemical and cellular constituents The picture closely resembles that of tuberculous meningitis in human cases

**Urobilin Excretion in Anemias of Infants**—According to Bass et al, the sum of the urobilin and urobilinogen excretion in the stools of normal children, obtained by the method of Wilbur and Addis, is less than 800 dilution units for children under 6 years of age, and less than 1,400 units for children under 11 years of age There is no evidence of excessive blood destruction in the anemias of infancy as indicated by the urobilin excretion in the stools, determined by the method of Wilbur and Addis

**Calcium Content of Breast Milk**—In a study of the calcium content of breast milk, DeBuys and von Meysenbug found the average of "normal" milks to be 326 mg per hundred cubic centimeters, with extremes of from 237 to 400 mg The "rachitic" milks averaged 275 mg with extremes from 184 to 396 mg In grouping of milks according to the age of the infant, the calcium content diminished as lactation

progressed The calcium content of milk from the white race as compared with that of the colored race shows a reduction in the latter race

**Subacute Intussusception**—Four cases of intussusception from eight to sixteen days' duration are presented by Bergstrom, three of which were ileocecal and one of colonic invagination The first three occurred in infants from 6 to 8 months of age, and the fourth in a boy, aged 8 years The three infants had been nursed from birth, and except for slight digestive disturbances had never been ill In two of the patients, a tumor was found in the right and left lower quadrant, respectively, of the abdomen Operation, performed on two patients eight days after onset, resulted favorably The third case came to necropsy sixteen days after onset

**Idiopathic Cardiac Hypertrophy in Infant**—A case of so called idiopathic cardiac hypertrophy is reported by Carrington and Krumbhaar, occurring in an infant, aged 12 months A mild nephritis myocardial fibrosis and anomalous coronary artery (arising from the pulmonary) are discussed as possible causes

**Tuberculous Pyopneumothorax in Infant**—The age of this patient was 5 months Ross and Crowdy believe that this is the youngest patient in whom this complication has been reported Close association with the father, who was suffering from open tuberculosis, was the evident reason for the early infection of the patient The mode of entry of the infection was obscure The necropsy findings showed no evidence of tuberculosis of the alimentary tract The obvious and, therefore, attractive theory is that inhalation of droplets or dust carrying the tubercle bacilli resulted in a tracheobronchial lymph node infection by way of the pulmonary road In favor of this is the history of a persistent cough from the age of 3 months, and the presence of shadows at the hilum in the roentgenogram These shadows at such an early age are suggestive of tuberculosis Finally, and what seems of most importance, there was a definite shadow in the middle of the left lung, which later was proved to be the center of the tuberculous lesion

## American Journal of Obstetrics and Gynecology, St Louis

7 505 636 (May) 1924

*Endometrial Tissue in Ovary O H Schwarz and R Crossen St. Louis—p 505
*Carcinoma of Uterus G W Crile Cleveland—p 528
Radiation Therapy of Cancer of Uterus U V Portmann Cleveland—p 536
Radium in Carcinoma of Uterus T E Jones Cleveland—p 541
Relative Values of Irradiation and Radical Hysterectomy for Cancer of Cervix J G Clark and F B Block Philadelphia—p 543
*Carcinoma of Body of Uterus C C Norris and M E Vogt Philadelphia.—p 550
*Solid Ovarian Tumors Pathology S H Geist New York—p 567
Id. Symptoms and Treatment E Bishop Brooklyn—p 576
*Is Eclampsia a Biologic Necessity? O M Gruhzit Detroit—p 588
Two Cases of Recurrent Cyst Adenoma of Liver D Hadden Oakland Calif—p 598
Abdominal Hemorrhage from Ruptured Graafian Follicle Cyst D Hadden Oakland Calif—p 600

**Endometrial Tissue in Ovary**—In a group of 164 cases in which the gross specimen of the ovary could be studied more or less intact, Schwarz and Crossen found eleven cases with endometrial tissue and seven with hematomas of the endometrial type Studying sections taken from cases in which gross specimens were not available five cases with true endometrial tissue were encountered and four of the hematoma type In the first group were placed those cases in which the endometrial tissue was found on the surface of the ovary, in the cortex of the ovary or lining a cyst These cases presented chiefly those in which the endometrial tissue was limited to the surface of the ovary or involving only a very superficial portion of the cortex There were four cases in which the endometrial tissue was found lining a cyst An occasional gland was found below the lining epithelium In the second group, the group of hematomas believed to be of endometrial origin, there were eleven cases The structure of the wall in these cases is very characteristic and Sampson's descriptions are absolutely correct in this regard The third group consisted of ovaries which showed no hematoma or tissue of the endometrial type but about which were present adhesions with considerable amount of old blood and adhesions in which the stroma was very cellular Twelve cases were in this group The fourth group includes those cases in which gland tubules were found in the ovary in varying number, usually well implanted in the cortex.

**Analysis of Cases of Carcinoma of Uterus**—Out of 251 cases of carcinoma of the cervix observed by Crile and his associates, 220 were available for study of operability, mortality, etc Radical operation was performed in sixty cases, palliative operation in 108 cases The operative mortality—radical operation—was 6 7 per cent The operability (radical operation) of these cases was 27 3 per cent Twenty-three patients were heard from who were alive and well three years after treatment, sixteen of these after radical operation, seventeen were alive after five years, fourteen of these after radical operation Of 106 fundus cancer cases, ninety-one were available for study Radical operation was performed in seventy cases with an operative mortality of 8 6 per cent, palliative operation in seventeen cases Fourteen patients heard from were alive after three years, eleven after five years In the case of any abnormal discharge after the menopause Crile urges immediate vaginal hysterectomy followed by the application of radium

**End-Results of Uterine Fundus Carcinoma**—The results obtained by operation and irradiation in a series of 115 consecutive carcinomas of the body of the uterus are presented by Norris and Vogt, with special emphasis on the end-results The percentage of three-year hysterectomy cures was 37 5 per cent, whereas in a like series, the irradiation resulted in 45 per cent of three-year cures The percentage of three-year hysterectomy cures in the early cases was 42 per cent The operative mortality from hysterectomy was 7 per cent and from radium 6 per cent The total mortality from all causes in the entire series of 115 cases was 56 per cent The total number of three-year cases was 86, of these 34 8 per cent are now alive It is emphasized that carcinoma of the fundus must be considered a relatively malignant form of cancer The teaching that from 60 to 75 per cent of these cures are permanent cures is regarded as being fallacious

**Solid Tumors of Ovary**—Fifty cases of solid ovarian tumor were studied by Geist, thirty-one cases of carcinoma, twenty-four primary and seven secondary Of the primary tumors six occurred in preexisting cysts, in one of these latter cases there was a rupture of the cyst preoperatively These were all papillary adenocarcinomas Of the remaining eighteen, twelve were papillary adenocarcinomas and six were medullary Three patients died shortly after operation, one of peritonitis In ten cases, at the time of operation, there were already abdominal and omental metastases present Most extensive metastases were found in the two youngest patients, 12 and 13 years old There were four instances of carcinoma occurring in dermoids, three were squamous, one was medullary There was one case of solid teratoma There were nine cases of sarcoma, six fibrosarcoma, two round cell and one perithelial sarcoma There were seven cases of benign tumor, five fibromas and two fibromyomas

**Eclampsia**—Gruhzit reviews the theoretical foundation and practical experience of others leading to the formation of new ideas concerning the etiology of eclampsia as based on transmission of hereditary factors which invariably lead to the iso-agglutination phenomena It is shown that the incompatability between two blood groups on clashing produces in the test tube a new, more viscous fluid It is assumed that a similar condition would occur in vivo on the passage of agglutinogen from the fetus to the mother's blood stream. The viscous colloidal state of blood can account for all symptoms, signs and pathology of eclampsia The end-results of these changes produce stasis, congestion and decreased rate of metabolism protein as well as carbohydrate Experimental data on the blood typing from normal and abnormal pregnancies further tend to substantiate that the interagglutination may be at fault in true eclampsia but not in nephritic toxemias or normal pregnancies In fifteen clinically diagnosed cases of eclampsia or preeclampsia the blood grouping in mother and her child was incompatible In the cases of pregnancy toxemia with convulsions, blood grouping of the

mother and her child was compatible In eighty-three cases of normal pregnancy blood grouping was compatible

## American Journal of Ophthalmology, Chicago

7 337 424 (May) 1924

Localization of Foreign Body in Eye in Relation to Rotation Center A Verwey, Johannesburg, South Africa —p 337
Cyclodialysis for Simple Glaucoma R Cords, Cologne, Germany —p 341
Peripheral Iridotomy (Curran) and Subconjunctival Limbus Puncture in Treatment of Glaucoma H Gifford, Omaha —p 346
Pathogenesis of Intrinsic Ocular Paralysis During Convalescence from Acute Infectious Diseases J de J Gonzalez, Leon, Mexico —p 351
Factors Determining Choice of Operation in Glaucoma W H Luedde, St Louis —p 353
Sarcoma of Choroid H F Hansell, Philadelphia —p 359
Muscle Replacement in Correction of Squint, Report of Cases and Results S A Agatston, New York —p 361
Changes in Eyes of Rabbits Following Injection of Dead Tubercle Bacilli into Common Carotid Artery W C Finnoff, Denver —p 365
Iridotasis After Iridectomy F H Verhoeff, Boston —p 373
Glaucomatous Eye with Clouded Cornea but Deep Chamber E V L Brown, Chicago —p 373
Rupture of Choroid C B Williams, Mineral Wells, Texas —p 375
Twins with High Hyperopia M Black, Denver —p 375

## Annals of Surgery, Philadelphia

79 643 802 (May) 1924

*Continued Intravenous 'Drip" R Matas, New Orleans —p 643
Significance of Jaundice in Surgery G de Takats, Budapest, Hungary —p 662
*Intrathoracic Tumors G J Heuer, Cincinnati —p 670
*Tumors of Mediastinum in Children L W Smith and J S Stone, Boston —p 687
Treatment of Suppurative Peritonitis J A Blake, New York —p 710
Value of Roentgen Ray Examination in Early Diagnosis of Postoperative Ileus J T Case, Battle Creek, Mich —p 715
Surgical Relations of Cholecystitis J B Deaver, Philadelphia —p 726
Amebic Liver Abscess, Two Cases in Connecticut M Lear and E S Merrill, New Haven, Conn —p 730
Transverse Incision and Dependent Drainage in Appendicitis A E Rockey, Portland, Ore —p 740
*Recurring Hernia of Diaphragm P E Truesdale Fall River, Mass —p 751
*Repairing Inguinal Hernia with Living Sutures from External Oblique Tendon J D McEachern, Winnipeg —p 758
*Cysts of Wolffian Body F Hinman, T E Gibson and A A Kutzmann, San Francisco —p 762
Stricture of Female Urethra, Three Cases W S Pugh, New York —p 770
Wounds of Lower Extremity Communicating with Fracture or Joint G A Carlucci, New York —p 779
Simultaneous Dislocation of Both Shoulder Joints A P Hemeck, Chicago —p 788

**Continuous Intravenous Drip**—Matas directs attention to the value and advantages of the intravenous route for the direct and continuous instillation of fluids intended to replace the volume of lost blood, and for infusing stimulating, nutrient and medicated solutions in shocked, toxic, exhausted and dehydrated surgical subjects in whom the usual indirect avenues of the circulation and the tissues are either unavailable, insufficient or inefficient when there is urgent need of a prolonged prop to the circulation in the great emergencies or crises of surgical practice Illustrative cases are cited

**Intrathoracic Tumors**—Eight cases of tumor of the thoracic wall, pleura and mediastinum are reported by Heuer intrathoracic calcified cyst arising from the anterior mediastinum and projecting into the right thoracic cavity, recurrent osteochondrosarcoma of the tenth rib involving the pleura, intrathoracic, extrapleural xanthoma or xanthosarcoma, chondromyxoma or benign cyst occupying the upper half of the right thoracic cavity and arising presumably from the costavertebral articulations of the fourth and fifth ribs, pleural endothelioma, possibly sarcoma, arising in the upper right thorax, pleural endothelioma, and retropleural aneurysm of the descending thoracic aorta

**Tumors of Mediastinum in Children**—Smith and Stone report two cases The first patient, a child, aged 4½ years, had a mediastinal teratoma The second patient, aged 20 months, had a retropleural tumor, with extension to the retroperitoneal tissue The origin and type of the tumor were uncertain It was probably of pleural origin and in type might have been a papillary carcinoma of the left chest with metastases to the retroperitoneal tissues, or a mesothelioma

**Recurring Hernia of Diaphragm**—Truesdale reports a case in which he performed three operations on the same person for traumatic hernia of the diaphragm within a period of three years In the first operation he closed the tear in the diaphragm with a running suture of catgut reinforced by three sutures of the same material At the second operation he enlarged the opening, denuded the edges, then closed with catgut and interrupted sutures of silk In the last instance he prepared the aperture in the same manner and closed the opening with interrupted sutures of silk reinforced by a running suture of chromic catgut Six months after the last operation the child was once more apparently well

**Living Suture for Herniotomy**—McEachern raises a one quarter inch wide strip of tendon, freeing it at the upper end and leaving it attached at the lower end to the pubic bone, and uses it as a suture

**Cyst of Wolffian Body**—The case reported by Hinman et al was one of a true wolffian body cyst, as evidenced by the finding of primitive renal structures in its wall The symptomatology consists chiefly of secondary compression phenomena, varying with the size and location of the tumor These cysts may grow to a volume of 10 liters Diagnosis is chiefly one of exclusion and is usually made at operation or on later pathologic study Treatment consists of early and complete removal because of the tendency toward malignant degeneration in certain types

## Archives of Surgery, Chicago

8 705 960 (May) 1924

*Radio-Ulnar Synostosis C B Davenport, H L Taylor and L A Nelson, Cold Spring Harbor, N Y —p 705
*Septic Thrombophlebitis of Femoral Vein, Operative Treatment E H Pool and F J McGowan, Jr, New York —p 763
Formation of Decidua of Pregnancy in Adenoma Endometrioides Ovarii F Winestine, Berlin, Germany —p 772
Ununited Fractures W C Campbell, Memphis, Tenn —p 782
*Gastric Ulcer Studies L R Dragstedt and A M Vaughn, Chicago —p 791
*Surgical Treatment of Tuberculosis of Genito Urinary Tract V C Hunt, Rochester, Minn —p 811
Lipoma of Thigh, Four Cases K Speed, Chicago —p 819
*Pneumarthrosis as Diagnostic Aid S Kleinberg, New York —p 827
Renal Circulation R K Lee Brown, Sydney, Australia —p 831
Multiple Myelomas of Children E J Berkheiser, Chicago —p 853
Xanthomas J C Bloodgood, Baltimore —p 882
Tumors of Xanthoma Type C A Garrett, Baltimore —p 890
Differential Diagnosis Between Xanthomatous and Melanin Tumors from Frozen Sections D T Smith, Baltimore —p 908
Twenty Third Report of Progress in Orthopedic Surgery R B Osgood and others, Boston —p 918

**Radio-Ulnar Synostosis**—On the whole, the evidence presented by Davenport and his associates seems to favor the conclusion that there is some truth in all of the hypotheses formulated to account for this condition, and that radio-ulnar synostosis is a trait that, in different biotypes, depends on one, two or three factors, that it is usually an autosomal dominant (although the possibility that the "gene" for it may lie in the Y chromosome of certain families should be kept in mind), and that it is partially sex limited but variable in degree of expression, possibly owing to modifying factors There are genotypical differences in various families, which thus belong to diverse biotypes In one family, only one "gene" appears to be responsible for the synostosis In most families, distribution is that of a two-gene trait, in one of the families, of a three-gene trait The synostosis is always a dominant trait Consanguineous matings are found in the synostotic families, and it is probable that they are especially frequent in them Radio-ulnar synostosis appears to be a dominant partially sex-limited trait, which varies in degree of expression

**Septic Thrombophlebitis of Femoral Vein**—The clinical diagnosis in the case reported by Pool and McGowan was duodenal ulcer and chronic appendicitis The ulcer of the duodenum was excised and the appendix was removed On the sixteenth day, the temperature rose suddenly to 104 F and then followed a septic course, ranging from 99 to 105 F until the sixty-third day after operation The patient was markedly septic and weak He was repeatedly examined without anything definite being found until after four weeks, when evidence of phlebitis of the internal saphenous vein was noted Blood culture showed hemolytic streptococci On the sixty-third postoperative day, the left femoral vein was exposed, ligated and opened and the thrombus was removed

Following operation the patient improved wonderfully Later, a left popliteal abscess containing hemolytic streptococci was incised and drained Following this, the temperature remained normal, and improvement continued The phlebitis was presumably secondary to some undiscovered focus The popliteal collection was evidently the result of a slow suppurative, retrograde thrombophlebitis from the site of ligation downward

**Experimental Gastric Ulcer**—The experimental evidence presented by Dragstedt and Vaughn seems fairly conclusive that in dogs an experimental ulcer in the stomach may increase the secretion of gastric juice brought about during the digestion of a meal When the acidity of the juice was abnormally low to begin with, the production of the lesion may raise the acid concentration A true hyperacidity in the sense of a gastric secretion with a higher concentration of hydrochloric acid than is found in normal pure gastric juice was never observed

**Tuberculous Epididymitis**—Sixty-six cases of tuberculous epididymitis are analyzed by Hunt Sixteen patients had had unilateral castration for definite or suspected tuberculous epididymitis from three months to fifteen years before, ten had associated renal tuberculosis, five had had a nephrectomy for renal tuberculosis from nine months to four years before and twenty-two had definite digital evidence of involvement of the vesicles or prostate Bilateral epididymectomy was performed in eighteen cases, left epididymectomy in seventeen right epididymectomy in sixteen, bilateral castration in one left castration in four, right castration in five and right castration and left epididymectomy in five The condition of forty-nine of these patients has been ascertained There was a persisting sinus in but one case The testicle was slightly smaller in 40 per cent there was no change in the size in 52 per cent, and it was slightly enlarged in 8 per cent In cases in which there was unilateral epididymitis at the time of operation, the opposite epididymis remained free from infection for from one to five years, except in two, and in one of these castration was performed subsequently There have been no urinary symptoms in 80 per cent In 66 per cent there has been a gain in weight of from 10 to 25 pounds Only one patient has lost weight Eighty-eight per cent of the patients are well or markedly improved One patient only is worse, as a result of general tuberculosis, which was present at the time of operation

**Pneumarthrosis Aid in Diagnosis**—A case is reported by Kleinberg to emphasize the usefulness and the harmlessness of pneumarthrosis It is not intended that this proceedure be used indiscriminately or without due regard to asepsis and it is unwarranted when the diagnosis is clear But it is very helpful in many obscure conditions and is not being employed so often as it should be, because it is not generally appreciated that the inflation of a joint with oxygen is both simple and free from danger The special interest in the case cited is due to the opportunity of again demonstrating roentgenographically a pathologic cartilage

## Boston Medical and Surgical Journal

**190** 771 818 (May 8) 1924

Quinidin in Auricular Fibrillation J Wyckoff and M Ginsberg New York—p 771
Chronic Peptic Ulcer J B Deaver Philadelphia—p 776
Prolapse of Intestine Through Patent Omphalomesenteric Duct G D Cutler Boston—p 782
Postinfantile Tetany Associated with Chronic Pyloric Obstruction R W Belknap Damariscotta Me—p 784

**190** 819 864 (May 15) 1924

Isolation and Concentration of Specific Antibodies of Antipneumococcus Serums L D Felton Boston—p 819
Acute Pyogenic Parotitis in Otherwise Healthy Persons R G Spurling and F W Stewart Boston—p 826
Diminution in Heart Size in Circulatory Collapse Case G Wells and B Gordon Boston—p 831
Value of Roentgen Ray in Pulmonary Diagnosis R Clifford and M Ritvo Boston—p 833

**Quinidin in Auricular Fibrillation**—Wyckoff and Ginsberg report two cases of sudden death following quinidin medication A young man of 20, without heart failure, with rheumatic heart disease, mitral disease with stenosis and regurgitation and a large heart, having received 24 gm quinidin sulphate in twenty-six hours with no toxic symptoms, died suddenly twelve hours after the last does and six hours after last observed by a physician (at which time the auricles were still fibrillating) A man of 44, with rheumatic heart disease, mitral disease with stenosis and regurgitation and a large heart, having received 22 gm quinidin sulphate in twenty-four hours, suddenly became comatose one hour after the last dose, with marked slowing of respiration and return of normal heart rhythm There seemed to be no paralysis After nine minutes the patient had Cheyne-Stokes respiration for a short time This later became normal Heart rhythm, which was normal after onset of coma, became very rapid in about two hours but was still regular This rhythm continued for twelve hours when the auricles again began to fibrillate He died without regaining consciousness Necropsy was refused in both cases The mechanism of death in either case is not known A third patient collapsed suddenly after the fifth dose of 0 4 gm quinidin administered inside of eight hours This patient recovered

**Prolapse of Intestine Through Patent Omphalomesenteric Duct**—The condition reported by Cutler is exceedingly rare and represents a prolapse or inversion of the intestine through a patent omphalomesenteric duct, opening on the side of the umbilical cord, in association with an umbilical hernia The patient was only four hours old when first seen by Cutler An operation was made immediately It was impossible to reduce the prolapsed Meckel's diverticulum and intestine through the ring at the side of the cord, so an incision was made into the sac formed by the dilated cord Then the loops of the small intestine were pushed back into the abdomen except for the two portions which entered the Meckel's diverticulum The ring in the side of the cord was incised and the prolapse easily reduced The adherent portion of the diverticulum was resected between clamps and the hole in that part attached to the intestine was closed with a stitch of catgut reinforced by a continuous silk stitch to the serosa The umbilical ring had to be incised to permit replacement within the abdominal cavity of the portion of the intestine and Meckel's diverticulum which had never been within the abdomen Reduction accomplished, the cord was trimmed off Vessels which did not bleed were tied The peritoneum and fascia were sutured and the skin edges approximated The baby recovered from the operation, but after a week it developed a facial erysipelas and bronchopneumonia, and died

## Canadian Medical Association Journal, Montreal

**14** 363-468 (May) 1924

Metabolism of Diabetes A B Macallum—p 363
Indications for Radical Mastoid Operation in Chronic Purulent Otitis Media H H Burnham—p 367
Management of Toxemia in Later Months of Pregnancy J D McQueen—p 371
*Glycosuria in Pregnancy I M Rabinowitch—p 375
Progress of Mental Hygiene in Manitoba W M Musgrove—p 377
Indications for Tonsillectomy Criticism of Operation G H Lonsdown—p 379
Treatment of Fractures of Leg H P H Galloway—p 383
Blood Transfusion G H Agnew—p 388
Parotid Calculi Case W H Irvine—p 392
*Nevi Treatment by Radium H MacKay—p 394
Control of Diphtheria R H Mullin—p 398
Standardization and Value of Thyroid Preparations A T Cameron—p 407
Relation Between Width of Pupil and Carbon Dioxid Content of Blood W Bourne—p 411
Enuresis A B Chandler—p 413
Dehydration Anemia A H MacCordick—p 416
*Acute Boracic Acid Poisoning (Fatal) A T Bazin—p 419
Etiology of Scarlet Fever (Review) H B Cushing—p 421

**Glycosuria in Pregnancy**—Of twenty-four cases of glycosuria found in pregnancy with absence of other clinical signs and symptoms suggestive of diabetes mellitus sixteen showed lowered thresholds The fact that in four cases definitely diminished tolerances for sugar were found, Rabinowitch thinks further emphasizes the accepted teaching that persons having glycosuria should be regarded as diabetic and treated accordingly until proven otherwise

**Radium Therapy for Nevi**—MacKay regards radium the remedy of choice for the removal of superficial vascular nevi In the case of young children it may be applied during sleep

**Acute Boracic Acid Poisoning.**—Bazin relates the case of a boy, aged 15, who was troubled with constipation His physician ordered an enema given twice a day The enema consisted of six teaspoonfuls of boracic acid powder in six cups of water Two enemas were expelled with bowel movements On the evening of the second day the child began to vomit, vomiting every hour very offensive material On the next day a skin rash appeared This rash was a bright red, and diffused generally over the body surface, being more marked on the trunk, front and back On the fourth day the boracic acid enemas were discontinued and proctoclysis substituted The vomiting ceased and the rash commenced to fade On the sixth day two other boracic acid enemas were administered and the rash was again intense The patient was very ill, vomiting was continuous There was high fever and abdominal pain The patient was very dull and stuporous The general condition on the morning of the seventh day was still more serious, the patient was comatose, vomiting was frequent, and the pulse was rapid and small Two more boracic acid enemas were given and were not expelled The diagnosis made was that of "acute boracic acid poisoning" Nine hundred cubic centimeters of 5 per cent glucose saline solution was administered intravenously with improvement in pulse On the following morning an intravenous injection of 950 c c of Ringer's solution was followed by improvement in the pulse, and cardiac stimulants were administered hypodermically However, in spite of treatment, the boy died in the afternoon of the eighth day after the first enema was given

## Illinois Medical Journal, Oak Park

**15** 305 380 (May) 1924

Differentiation Between Quick and Dead G W Crile, Cleveland—p 327
Arterial Hypertension W A Jenkins, Louisville, Ky—p 330
Control of Tuberculosis G S Wightman, Chicago—p 337
Public Health Nursing in Illinois M D Reiseman Springfield—p 343
Illinois Campaign for Education of Lay Public C J Whalen, Chicago—p 349
Roentgen Ray in Treatment of Impaired Hearing J J Richardson, Washington, D C—p 353
Operative Treatment of Fractures F J Cotton, Boston—p 357
Review of Treatment of Syphilis B Shafer Chicago—p 359
Insulin Treatment of Diabetes and Its Complications O P J Falk, St Louis—p 365
Treatment of Pneumonia S L Gabby, Elgin—p 367
Treatment of Lacerated Wounds of Scalp W H Byford, Chicago—p 370
Labyrinthine Vertigo Without Middle Ear Pathology F L Alloway, Champaign—p 371
Focal Infections of Head E E Poos, Belleville—p 373

## Iowa State Medical Society Journal, Des Moines

**14** 191 234 (May) 1924

Medical and Surgical Aspects of Biliary Apparatus W J Mayo, Rochester, Minn—p 191
Mysteries of Abdomen J B Deaver, Philadelphia—p 195
Spleen Function and Its Relation to Spleen Surgery E R Shannon, Waterloo—p 199
Relation of Heredity to Disease in Man J S Weingart, Des Moines—p 204
Value of Roentgen Ray to Eye, Ear, Nose and Throat Specialist B Allen, Iowa City—p 210
Bilateral Peritonsillar Abscess Case Report H G Langworthy, Dubuque—p 214
Relation of Focal Infections to Kidney J Crawford, Cedar Rapids—p 215
Management of New Born Infants R Taylor, Minneapolis—p 218
Syphilis Negative Wassermann Blood Tests Following Arsenic Rashes R E Jameson, Davenport—p 220

## Johns Hopkins Hospital Bulletin, Baltimore

**35** 133 164 (May) 1924

*Blood Chemistry During Pregnancy H J Stander, Baltimore—p 133
*Atypical Distribution of Varicella Lesions Dependent on a Coexistent Syphilitic Infection W S Tillett and T M Rivers, New York—p 137
*Effect of Methyl Guanidin on Blood Pressure R H Major and W Stephenson, Kansas City, Kan—p 140
*Changes in Human Oviduct During Menstrual Cycle and Pregnancy T F Snyder, Baltimore—p 141
Acute Exanthem of Leprosy F de P Barrera, Agua de Dios and A P Chavarria, Bogota, Colombia—p 147
Experiments on Extrahepatic Formation of Bilirubin E H Oppenheimer, Baltimore—p 158

**Blood Chemistry During Pregnancy**—The results of routine blood analyses carried out on fifty-three patients are recorded by Stander Conditions obtaining in normal gestation, as well as in the several toxemias of pregnancy, were studied In normal pregnancy the nonprotein nitrogen, as well as the urea nitrogen content is less than in the nonpregnant woman The uric acid is about the same as in the nongravid person, while the carbon dioxid combining power drops from 52 to 45 volumes per cent In neurotic vomiting the figures show an increased value for the nonprotein nitrogen and uric acid in the fairly severe cases These return to within normal limits as the patient improves The nonprotein nitrogen tends to increase in nephritic toxemia and to an extent fairly proportional to the severity of the condition, whereas, in the definitely preeclamptic type of toxemia, this tendency is not so striking In true eclampsia fairly normal values are found for nonprotein nitrogen and the carbon dioxid combining power The uric acid content of the blood is definitely elevated in all three types of toxemia, nephritic, preeclamptic and eclamptic

**Syphilitic Eruption Determines Seat of Varicella Lesions**—A case of varicella is reported by Tillett and Rivers in which the eruption was most marked over the face, scalp and extremities instead of over the trunk The unusual distribution of the lesions in this case is believed to have been dependent on a coexistent syphilitic infection

**Effect of Methyl Guanidin on Blood Pressure**—Several records of the effect of methyl guanidin on the blood pressure in man were obtained by Major and Stephenson The substance was injected intravenously, in doses varying from 0 045 gm to 0 08 gm per kilogram No unpleasant symptoms, aside from a sense of slight fullness in the head and a slight pounding of the heart, were noted The systolic and diastolic pressures were promptly elevated and these elevations persisted for one hour The systolic blood pressure was elevated in these observations from 30 to 50 mm, and the diastolic pressure from 15 to 20 mm

**Changes in Oviduct During Menstruation and Pregnancy**—Snyder's observations give no support to hypotheses which explain sterility and pathologic conditions of implantation on the basis of alternations in ciliated and nonciliated (secretory) phases in the epithelium of the tubes

## Journal of Cancer Research, Lancaster, Pa

**8** 1 136 (April) 1924

Strain and Family Differences in Susceptibility to Sarcoma Cysticercus M R Curtis and F D Bullock, New York—p 1
Dosage One and Two Centimeters Under Skin from Unfiltered Roentgen Rays W Stenstrom, Buffalo—p 18
Flexible Arrangement for Simultaneous Radiation of Patient with Three Tubes W Stenstrom and T Mueller, Buffalo—p 22
Consideration of Body Dose in Radiation Therapy W Stenstrom Buffalo—p 30
Reaction of Cancer Cell W H Woglom New York—p 34
Cancer, Parasitic Theory W Meyer, New York—p 45
Roentgen Ray Spectra with Certain Filters H M Terrill and M Pine, New York—p 68
Genetics of Tissue Transplantation in Mammals C C Little, Orono Me—p 75
Primary Spontaneous Tumors of Uterus in Mice XIX M Slye H F Holmes and H G Wells, Chicago—p 96
*Experiments on Pathogenesis of Epithelial Growth I K Yamagiwa and K Murayama—p 119
Influence of Lanolin Feeding on Formation and Development of Tar Cancroid on Ear of Rabbit K Lee, T Fukuda and R Kinoshita—p 127
Relation Between Lanolin Feeding and Formation of Cancroid by Painting Back of Mouse with Tar M Kashiwagi, T Fukuda and J Owaga—p 131

**Pathogenesis of Epithelial Growths**—In the course of five years of experimentation on 188 animals, Yamagiwa and Murayama have succeeded in producing in rabbits twenty-three cases of cancroid and adenocancroid of the mammae resembling the lesions observed in man These epitheliomas were produced by injection into the mammary glands of liquid tar extract, pure tar, mixture of tar and lanolin, liquid paraffin containing tar, olive oil or liquid paraffin, in doses of from 0 3 to 0 5 c c, this injection was made once or twice a month The development of epithelioma in 12 23 per cent of the animals injected is considered a high average

## Journal of Laboratory and Clinical Medicine, St Louis

9 513 590 (May) 1924

*Chronic Typhoid Carrier State Following Typhoid Infections in Vaccinated Persons J S Simmons and J D McCarthy, U S Army —p 513
Studies on Autonomic System II Reaction of Excised Surviving Small Intestine of Turtle to Autonomic Poisons G B Roth Cleveland —p 519
*Water Excretion as Influenced by Blood Pressure Response to Sodium Nitrite E C Mason Rochester Minn —p 529
*Flocculation Test for Syphilis C B McGlumphy Chicago —p 539
*Effect of Thyroidectomy on Calcium Content of Blood Serum I M Rabinowitch, Montreal —p 543
Practical Points in Wassermann Reaction F Green Montreal —p 546
Molasses Plate Method for Staining Many Paraffin Sections at One Time A S Warthin Ann Arbor Mich —p 554
New Hone for Microtome Knives C V Weller, Ann Arbor Mich —p 561
Tables for Blood Chemistry Calculations J V Talisi and V A Lawton, U S Army —p 566
Device for Isolating Bacillus Acidophilus from Single Colonies T T Brendigam and T M Chang, Battle Creek Mich —p 572
Simple Microtome G W Wagoner Philadelphia —p 575
Feeding Device for Use with Experimental Rat H T Parsons and N Alexander Madison Wis —p 576
Small Sterilizing Box E Amberg Detroit —p 580

**Chronic Typhoid Carrier State Among Vaccinated Convalescents**—Four chronic carriers of typhoid bacilli and one of paratyphoid B bacilli were found by Simmons and McCarthy among eighty-four convalescents, all of whom had received triple typhoid vaccine previous to their infections Typhoid agglutinins were present in the serum of all the carriers and the titers for the positive typhoid carriers were 1 640, 1 1,280, 1 320 and 1 640, respectively The serum of the paratyphoid B carrier agglutinated typhoid and paratyphoid B bacilli only in the 1 40 dilutions Leukopenia which has also been suggested as of diagnostic value for determining carriers, was not present in these cases On the other hand, leukopenia occurred in five of the subjects who were not proved to be carriers

**Sodium Nitrite Effect on Blood Pressure Urinary Response**—An investigation was undertaken by Mason to determine (1) whether sodium nitrite altered the urinary output sufficiently and frequently enough to warrant the withdrawal of nitrites during a water test, and (2) whether the urinary response paralleled the blood pressure response Observations on patients showed that urinary response to the administration of sodium nitrite does not parallel either the altered pulse pressure or the systolic blood pressure response However, it is suggested that diastolic pressure is probably the most important in maintaining a constant blood pressure to the functioning glomerulus Sodium nitrite can alter urinary excretion in only two ways (1) by peripheral dilatation in the kidney, and (2) by lowering renal blood pressure The first favors increased urinary secretion through increased blood volume flow through the kidney The second decreases urinary secretion by maintaining a renal blood pressure below the optimal Renal function depends on the blood volume flow through the kidney and pressure within the renal circulation If nitrites promote blood volume flow through the kidney without too markedly decreasing the pressure, there will be diuresis If the pressure in the renal circulation is markedly lowered, the water output will be decreased The ingestion of 1,500 c c of water in one-half hour will usually cause an increase in blood pressure until diuresis is established, after which the blood pressure will return to its original level, or may drop to from 10 to 12 mm below Sodium nitrite given in 1 grain doses each one-half hour for three doses was sufficient in all cases, except two, to cause a definite blood pressure lowering

**Flocculation Test for Syphilis**—As a result of his investigation, McGlumphy is convinced that flocculation occurs when syphilitic serum is mixed with alcoholic extract of human heart muscle which has been previously extracted with ether Negative serum shows no flocculation when mixed with such an alcoholic extract The addition of 0 05 c c of glycerin to the mixture of alcoholic extract and serum increases the size of the flocculi when the test is positive, and therefore renders the reading easier

**Effect of Thyroidectomy on Blood Serum Calcium**—In 114 consecutive thyroidectomies reviewed by Rabinowitch there were two cases of tetany In both cases the symptoms were relieved with calcium salts and the patients ultimately recovered, requiring no further medication The interesting observation was that no parathyroid tissue was found in the portion of thyroid removed in either case, and in both cases the calcium content of the blood serum was lowered It appeared reasonable to Rabinowitch to assume that in each of these cases the tetany was not due to the removal, but to trauma of the parathyroid glands from manipulation or temporary interference with the blood supply

## Journal of Medical Research, Boston

11 265 381 (March) 1924

Anaphylaxis in White Rat J T Parker and F Parker, Jr, New York —p 263
*Lack of Identity Between Viruses of Herpes and Lethargic Encephalitis F Parker Jr Boston —p 289
Cutaneous Hypersensitiveness to Tuberculin in Guinea Pigs L B Lange Baltimore —p 293
*Streptothrix Organism from Brain Abscess A E Steele, Boston —p 305
Effects Produced by Injection of Bacillus Histolyticus T D Beckwith and G MacKillop Berkeley Calif —p 311
Quantitative Peculiarities of Mixtures of Virus and Immune Serum of Rocky Mountain Spotted Fever C L Connor Boston —p 317
Rickettsia Like Micro Organisms in Insects M Hertig and S B Wolbach Boston —p 329
*Fatal Infection with Organism of Proteus Group S Warren and M E Lamb Boston —p 375

**Virus of Herpes and Lethargic Encephalitis Not Identical**—Parker holds to the belief that if the virus of herpes and that of lethargic encephalitis are identical, these bodies should occur in the brains of human beings dying of lethargic encephalitis He has carefully studied, histologically, the brains from seven cases of lethargic encephalitis in human beings, making many sections from each brain, and has failed to find any such bodies The absence of these bodies in lethargic encephalitis would seem conclusive proof that the two viruses are not identical

**Streptothrix Found in Brain Abscess**—*Actinomyces asteroides* otherwise known as nocardia or streptothrix, was found by Steele in sections of the brain of a man presenting symptoms of cerebral pressure, it was cultivated and the culture produced the lesions in animals A trephine was made in the left temporal region and the dura opened This was followed immediately by bulging of the brain substance into which a needle was inserted and pus evacuated from an abscess in the left temporal lobe The abscess was drained and the wound partially closed Further exploration was not deemed advisable because of the weak condition of the patient He recovered from the operation, but signs of pressure continued, his general condition became worse and he died The necropsy disclosed multiple abscesses of the brain Coverglass preparations of the pus showed numerous masses of streptothrix

**Fatal Infection from Proteus Organism**—The patient, whose case is reported by Warren and Lamb, was suffering from myelogenous leukemia and tuberculosis, together with severe Vincent's angina His resistance was lowered greatly A gram-negative bacillus, unidentified, was obtained twice from a blood culture It was closely allied to *Proteus vulgaris*, and was pathogenic for laboratory animals, causing septicemia and necrosis of the liver, heart and suprarenals The filtrate of young broth cultures was toxic, and had pathologic effects on the tissues similar to those produced by the organisms The lesions found in the spleen, liver and intestines are described

## Journal of Radiology, Omaha

5 71 107 (March) 1924

Present Status of Intensive High Voltage Radiation Therapy of Cancer L Herly New York —p 71
Dental Regional Roentgenography Shadow Values in Relation to Normal Bone Construction W A Lurie New Orleans —p 77
Urologic Aspect of Roentgenology W E Achilles and A M Crance, Geneva N Y —p 81
Roentgen Rays and Roentgen Ray Apparatus J K Robertson Kingston, Canada —p 84

## Kansas Medical Society Journal, Topeka

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Sterility in Female R T Frank Denver, Colo —p 133
Rabies B T Crowley, Fredonia —p 136
Mechanism of Cardiac Irregularities H N Tilden, Wichita —p 138

## New Jersey Medical Society Journal, Orange

21 147 178 (May) 1924

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Sinus Thrombosis T R Chambers, Jersey City —p 151
Functional Elements in Organic Nervous Diseases and Other Disorders D Nathan, Norristown, Pa —p 153
Surgical Treatment of Sequels of Pneumonia G Blackburne, East Orange —p 155

## New Orleans Medical and Surgical Journal

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Examining Nephritic Patient H A Christian, Boston —p 487
Story of Roentgen Ray L J Williams, Baton Rouge, La —p 490
Evaluation of Local Anesthesia U Maes, New Orleans —p 492
*Luminal Sodium in Treatment of Hyperemesis Gravidarum H E Miller, New Orleans —p 495
Shadows in Aortic and Hilar Regions A Granger, New Orleans —p 498
Treatment of Purulent Arthritis I Cohn, New Orleans —p 501

**Luminal Sodium in Treatment of Hyperemesis Gravidarum**—Miller uses luminal sodium in all cases in which the vomiting of pregnancy was not amenable to simple measures Of ten patients treated, five were retaining possibly a third of the food ingested, but were losing strength and weight The other five were undoubtedly instances of pernicious vomiting, and had the routine measures of proctoclysis, hypodermoclysis, glucose infusions, starvation treatment and glandular therapy, with little or no result The same treatment was employed in all cases Two grains of luminal sodium was given one hour before each meal, with the same dose at bedtime, all by mouth, except in three cases, in which the first doses were given hypodermically, and the patient was instructed to resume her ordinary diet In one case, about three-quarters of the food taken during the first twenty-four hours was retained, after which there were no further attacks of vomiting, in every case the relief was immediate The only untoward symptom following the administration of the drug was one case of urticaria Several patients stated that they had wild dreams, but none complained of restless nights because of drowsiness during the day

## Northwest Medicine, Seattle

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Remote Effects of Brain Injuries F Brodie, Vancouver, B C —p 207
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Gallbladder Complications J R Morrison Bellingham, Wash —p 216
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## Oklahoma State Medical Association Journal, Muskogee

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Acute Pancreatitis L H Carleton Tulsa —p 110
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## Radiology, St Paul

2 287 366 (May) 1924

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Chronic Ulcerative Colitis A H Logan, Rochester, Minn —p 302
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Spondylitis Submerged Entity in Diagnosis of Obscure Conditions in Abdomen W H Wallace Brooklyn —p 307
Measurement of Intensifying Factors of Roentgen Ray Intensifying Screens R B Wilsey —p 311
Case of Lymphosarcoma of Stomach D B Harding, Rochester, Minn —p 315
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Roentgen Ray as Remedy in Fibromyomata and Other Benign Gynecologic Diseases M E Hanks, Chicago —p 317
Shift Measurements on Stereoscopic Plates Means of Correcting False or Doubtful Visual Impressions F B Stephenson, Denver —p 326
Ionometer for Relative Measurement of Primary Roentgen Rays A Mutscheller, New York —p 330
History of Radium K S Davis, Rochester, Minn —p 334

## Southwestern Medicine, Phoenix, Ariz

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Case of Bite by Spider (Latrodectus Mactans) W L Brown, El Paso, Tex —p 131

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Subacute Bacterial Endocarditis F A Fillius, Rochester, Minn —p 203
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Determining What Teeth Should Be Extracted T L Gilmer, Chicago —p 212
Heliotherapy in Surgical Diseases O S Brown, Winslow, Ariz —p 215
Psychoneuroses and Endocrine Dysfunction S D Swope El Paso, Tex —p 219
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Atypical Adenocarcinoma of Hypophysis, Case Report Schuster and Schuster, El Paso, Tex —p 227

## Tennessee State Medical Association Journal, Nashville

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Septic Thrombophlebitis of Portal Vein J W Barksdale, Jackson, Miss —p 417

## Wisconsin Medical Journal, Milwaukee

22 557 628 (May) 1924

*Present Status of Diabetic Patient as Surgical Risk R M Wilder and S F Adams, Rochester, Minn —p 557
Insulin Treatment of Postoperative Nondiabetic Acidosis and Toxemia Vomiting of Pregnancy W Thalhimer, Milwaukee —p 561
Practical Application of Insulin F D Murphy and R Blumenthal, Milwaukee —p 565
Medical and Hospital Cooperation W A Henke La Crosse —p 571
Diurnal Variations of Sugar Utilization in Insulin Treatment of Diabetes W E Nicely and C C Edmondson, Waukesha —p 575
*Method of Blood Transfusion G F Dick, Chicago —p 579
Diagnosis and Treatment of Chronic or Latent Tonsillitis J Daland Philadelphia —p 580

**Diabetic Patient as Surgical Risk**—Wilder and Adams stress the fact that the formerly prohibitive mortality which accompanied attempts at surgery on diabetic patients has been materially reduced by skilful surgery, proper anesthesia and the judicious use of medical measures before and after operation It is unjustifiable to subject a diabetic patient to surgery unless very good surgery and special medical supervision are available Insulin is a valuable adjunct in the management, but is only one of several important medical measures, and will not protect a patient unless it is skilfully administered An operation may provoke severe acidosis in cases of very mild diabetes, and such cases deserve, therefore, the same scrupulous medical attention as do those of severe diabetes Three hundred and twenty-seven operations are reported on 251 diabetic patients with four deaths This gross mortality of 1 2 per cent by operation compares favorably with that of the general surgical list One hundred and forty-one of the operations were major surgical procedures

**Blood Transfusion**—The method described by Dick was devised for use in medical cases, and especially for patients too ill to be moved to the operating room It consists in keeping a needle in the vein of the donor and one in the vein of the recipient, constantly—merely changing the barrels of the syringes, so that when the first blood withdrawn has been injected into the recipient, the second syringeful is ready to be injected As the second syringeful is injected a third is being withdrawn The procedure is continued until the desired amount of blood has been transferred

## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below Single case reports and trials of new drugs are usually omitted

### British Journal of Surgery, Bristol

**11** 605 616 (April) 1924

Teale's Amputation D A Power —p 605
*Injuries to Kidney and Ureter H Bailey —p 609
Intramedullary Capillary Angeioma of Shaft of Humerus, Leading to Spontaneous Fracture, Treated by Local Resection and Bone Grafting H Ballance —p 622
Extensive Multilocular Cystic Epithelial Tumor of Jaw C A Moore, G Hadfield and L E Claremont —p 629
*Intractable Pain Relative to Rhizotomy and Spinal Section R C Shaw —p 648
*Vermiform Appendix in First Thirty Hours of Acute Appendicitis L S Dudgeon and P H Mitchiner —p 676
Drainage in Acute Appendicitis R S L Brockman —p 690
*Blood Changes Associated with Metastatic Tumors of Bone A Piney —p 707
Cystic Pneumatosis of Intestinal Tract C A R Nitch —p 714
Osteogenesis Imperfecta R L Knaggs —p 737
Treatment of Simple Papilloma of Bladder by Fulguration W G Ball —p 760
Pin in Appendix J H Mather —p 772
Volvulus of Stomach H Nockolds —p 774
Case of Carcinoma of Breast Death Thirteen and One Half Years After Operation from Diffuse Secondary Deposits C P G Wakeley —p 775
*Intussusception of Sigmoid Three and One Half Years After Intussusception of Appendix A J Blaxland —p 777
Acute Intussusception in Femoral Hernial Sac C P G Wakeley —p 779
Carcinoma of Solitary Kidney with Other Complications M B Hannay and R F Young —p 780

**Treatment of Injured Kidney**—Bailey analyzes 108 cases of injured kidney in which the injury is mainly, if not entirely, confined to the kidney In all the cases the rupture was extraperitoneal Eighty-six cases were treated expectantly and twenty-six by operation Nephrectomy was performed twenty-one times, partial nephrectomy once, suture twice, tamponade once, drainage of infected perirenal hematoma once The only death was due to chloroform poisoning

**Clinical Effects of Rhizotomy**—Shaw concludes that the posterior roots are actively concerned in the conduction of stimuli in the majority of cases The recurrence of pain, whether early or late, without evidence of psychical disturbance in many cases, suggests that another conducting channel may exist The effects of rhizotomy on somatic sensibility were investigated by Shaw, and his results are cited Rabbits were the animals used in these experiments

**Pathology of Acutely Inflamed Appendix** — Twenty-seven cases were examined by Dudgeon and Mitchiner, but in two instances, although the symptoms led to the clinical diagnosis of acute appendicitis, the viscus was found to be normal on examination in the laboratory Ten control cases of chronic recurring appendicitis were also made use of The chief aerobic organisms isolated from the interior of the appendix were *Bacillus coli* and streptococci These organisms, with one exception (streptococcus), were nonhemolytic Twenty-five acute cases were investigated *B welchii*, was present in four of these acute cases, but the organism failed to reveal its pathogenicity, and in one normal appendix *B coli* was not obtained by blood culture, and streptococci were found in only one case All cases recovered without complications *B coli* infection of the urinary tract was present in three cases Intestinal parasites were found in one of the acute cases, and in only one of the ten control cases of quiescent appendicitis (*oxyuris*) Appendix concretions consisted of fats, soaps and vegetable matter Fats were demonstrated in the lumen, in the mucous lining, in the gland cells, in the lymph nodes of the appendix wall and in the lymph glands draining the appendix in the quiescent cases These findings suggest fat absorption from the lumen Evidence of chronic appendicitis was demonstrated in the wall of the appendix in some of the acute cases, although no previous history of appendicitis was obtained In the chronic cases, and in the acute cases, when evidence of previous inflammation existed in the appendix wall, the fibrosis involved the muscular coat which was extensively disorganized Spirochetes were found in two cases

**Blood Changes in Metastasis of Bone Tumors**—A specific type of blood picture is described by Piney, which depends on the irritation of the marrow by secondary deposits of tumors or granulomas The characters of the blood picture are roughly divided into two main classes, namely, those of the pseudopernicious and those of the pseudoleukemic type The stained erythrocytes, in three cases cited, showed poikilocytosis, anisocytosis and polychromatophilia The characters of the blood picture somewhat resemble those of pernicious anemia, but the occasional occurrence of a low color index is of great assistance in diagnosis The blood picture in metastatic carcinoma corresponds to a late embryonic type of hematopoiesis, while in pernicious anemia the process may be said to revert to the early embryonic type The differential diagnosis of metastatic carcinoma from pernicious anemia should present no difficulties if these criteria are borne in mind, but the differentiation from leukemia may be difficult A valuable differential point is the invariable absence of a marked increase of basophil leukocytes in metastatic anemia, whereas this is almost invariably present in leukemia, and the presence of even a few basophil myelocytes may be regarded as very strong evidence of the leukemic nature of the case The hematogenous origin of marrow metastases is reaffirmed

**Intussusception of Sigmoid Follows Intussusception of Appendix**—Three and one-half years after an intussusception of the appendix, Blaxland's patient had an intussusception of the sigmoid The appendix had been completely inverted, its mucous surface being studied with malignant papillomatous growth, and it was lying within the transverse colon, having drawn up the ascending colon, the cecum and part of the ileum with it The intussusception was reduced with the exception of the appendix which was removed by incising the cecum round its base Three and one-half years later, the patient came with an intestinal obstruction Laparotomy revealed an intussusception of the pelvic colon The bowel was invaginated for 6 inches, and after reduction, which was performed without great difficulty, the cause of the intussusception was found to be a protuberant malignant ulcer, about 1 inch in diameter, situated in the wall of the upper part of the pelvic colon The growth on section proved to be a malignant papilloma, similar in character, microscopically to that which had affected the appendix

### Indian Medical Gazette, Calcutta

**59** 169 220 (April) 1924

Outbreak of Epidemic Dropsy Form of Beriberi in Calcutta J W D Megaw and S P Bhattacharjee —p 169
Syphilis Complicating Mental Disease O A R Berkeley Hill and Prakash Chandra Das —p 174
*Formol Gel (Aldehyd) Test in Diagnosis of Kala Azar F F Elwes V K N Menon and P S Ramakrishnan —p 175
*Standard Treatment for Malaria H W Acton and R Knowles —p 177
Etiology of Skin Diseases in Tropics G Panja —p 184
*Poisonous Wheat A Swarup —p 186
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Case of Local Tetanus J Pereira —p 192
Case of Paratyphoid B Infection W W Jeudwine —p 193
Case of Anaphylaxis N N De —p 193
Syphilitic Granulomata of Uterus and Appendages in Child of Eight F R Parakh —p 194

**Formol-Gel Test for Kala-Azar**—Out of a total of eighty-one proved cases of kala-azar, 23 4 per cent gave a completely negative formol-gel test, while 12 3 per cent of proved cases gave a doubtful positive formol-gel test Therefore, in 35 7 per cent of this series of proved kala-azar cases the formol-gel test was of little or no value There is a certain group of cases clinically kala-azar and which reacted to treatment with potassium antimony tartrate in which the formol-gel test was positive, but Leishman-Donovan bodies could not be found, although some of these patients had liver puncture performed no less than three times It remains doubtful whether these cases were true kala-azar or some similar disease giving the formol-gel test and which reacted to potassium antimony tartrate In 100 cases the Wassermann reaction was tested owing to its similarity to the aldehyd test Only thirteen of the cases proved positive

**Quinin Acid Hydrobromid for Malaria**—Acton and Knowles advocate the intravenous injection of quinin acid hydrobromid for algid, comatose and cerebral malaria, or when the patient cannot tolerate cinchona febrifuge or quinidin sulphate by the mouth They consider that the dangers of intravenous injec-

tions of quinin have been greatly exaggerated The dose usually given by them is from 7½ to 10 grains of quinin acid hydrobromid freshly dissolved in from 15 to 20 c c of sterile saline solution In the majority of critical cases, one or two such intravenous doses of 7½ grains each, given during the first twenty-four hours, will speedily bring the patient into a condition of comfort, with a normal or subnormal temperature The intravenous injections should then be discontinued and the patient should commence the full thirty-one day oral course of quinin Intravenous quinin medication is useless in the prevention of relapses, and fails to sterilize the patient of parasites

**Poisonous Wheat**—Swarup reports eight cases of poisoning from eating wheat flour A nursing baby that had not eaten any of this flour, although its mother had, also became ill It is said that for this grain to become poisonous it is not necessary for it to be stored, but that it is poisonous when plucked

## Indian Medical Record, Calcutta

43 97 128 (April) 1924

Use of Massage in Nervous Affections J W Courtney—p 97
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## Medical Journal of Australia, Sydney

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Treatment of Gonorrhea in Women H H Schlink—p 197
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Apparent Synergic Action Between Ergot and Strychnin J L Jona—p 206

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*Tuberculous Invalid Pensioners in Australia M J Holmes and I R Kerr—p 355
Two Sea Faring Doctors of Past Lionel Wafer and Thomas Dover R S Skirving—p 358
Posterior Scleral Puncture in Acute Glaucoma E T Smith—p 365

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Wassermann Reaction M Ross and A H Tebbutt—p 209
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Incidence and Mortality of Pneumonia at Royal Prince Alfred Hospital *M Ross and* A H Tebbutt—p 341
Complement Fixation Test for Tuberculosis and Dreyer's Antigen C Badham—p 226
Complement Fixation Test in Tuberculosis L M Bryce and F E Williams—p 228

**Analysis of Histories of Tuberculous Invalid Pensioners**—The information contained in 419 applications for invalid pensions on account of tuberculosis has been compiled by Holmes and Kerr Cough was the first symptom in 314 persons Then in order of frequency were loss of weight, 23 per cent, debility, lassitude and weakness, 23 per cent, hemoptysis, 10 per cent, dyspnea, 19 per cent, pleurisy and pains in the chest, 18 per cent, night sweats, 12 per cent, and loss of appetite, 7 per cent Of the 419 pensioners, 208 had received sanatorium treatment, the majority of these for a period exceeding three months Others had received treatment in general hospitals, either as inpatients or outpatients, or both, still others had received treatment from private doctors Twenty-six persons had not received treatment The results of the sanatorium and hospital routine and treatment were manifested in evident care afterward taken by the majority of the pensioners with regard to infective discharges —74 per cent were taking adequate precautions for the collection and disinfection or destruction of sputum, according to methods learned in sanatorium or hospital More than 90 per cent of the pensioners slept alone and usually either out of doors or in a room by themselves and this even under the worst conditions of overcrowding Only 132 persons gave a history of definite known exposure to infection The exposure was at home in fifty-eight instances, at work in forty-five and among friends in twenty-nine Tuberculous disease or death from tuberculosis was noted as having previously occurred in the house in only twenty-nine instances of the 417 houses in regard to which *records were kept*

## Quarterly Journal of Medicine, Oxford

17 215 318 (April) 1924

Variations in Gastric Secretion of Normal Person J R Bell and W MacAdam—p 215
*Arterial Elasticity in Man J C Bramwell—p 225
*Calcium and Phosphorus Metabolism III Absorption and Fixation in Skeleton S V Telfer—p 245
*Renal Glycosuria F G Finley and I M Rabinowitch—p 260
*Association of Blue Sclerotics with Brittle Bones and Progressive Deafness W Stobie—p 274
*Inorganic Phosphorus Content of Cerebrospinal Fluid H Cohen—p 289
*Proteins in Serum in Cancer E L Kennaway—p 302
Clinical Blood Coagulometer O S Gibbs—p 312

**Measuring Arterial Elasticity**—An instrument is described by Bramwell by means of which *pulsations on the surface* of the body can be recorded with a string galvanometer Preliminary observations showed that the hot wire sphygmograph, on account of its mechanical properties, was capable of recording the time of arrival of the pulse wave at different points of the body with a high degree of accuracy It appeared, therefore, to be extremely suitable for investigating the velocity of transmission of the pulse wave A method of determining the pulse wave velocity in short pieces of excised artery is described The influence of blood pressure on arterial elasticity is discussed A method is described by means of which it is possible to determine in living man the actual elasticity of the arteries in the limbs at all "effective pressures" between zero and diastolic

**Calcium and Phosphorus Metabolism**—The chief conclusion drawn by Telfer from his experiments is that the retention of the two bone forming elements in young animals, and consequently skeletal development, can be influenced by the amounts of calcium and phosphorus in the diet In growing dogs, osteoporosis and rickets-like changes in the bones were produced on a diet containing a deficiency of calcium but an adequate amount of phosphorus On addition of calcium lactate alone to this diet, with consequent readjustment of the mineral balance, the skeleton of the dogs developed normally The factors concerned in the normal absorption of calcium and phosphorus are discussed From considerations of the distribution of the two elements in the excreta, and the data obtained from metabolic experiments, the following conclusions are drawn (*a*) The absorption of calcium is initially dependent on the free acid of the gastric juice, which plays an important part in effecting the solution of calcium salts in the diet (*b*) Absorption is normally restricted by the alkaline reaction of the intestinal secretions which tend to neutralize and so cause precipitation of the lime in solution as insoluble phosphate (*c*) The free absorption of calcium may be limited chiefly to a comparatively small portion of the upper part of the intestinal tract while still in acid solution To ensure adequate absorption an excess of calcium in the diet considerably greater than requirements is necessary (*d*) The absorption of phosphorus occurs freely even under pathologic conditions, and is difficult to restrict except by the addition of a large excess of calcium to a diet relatively poor in phosphorus The fixation of phosphorus in the skeleton is dependent on that of calcium, and in a diet unbalanced with regard to the mineral elements the absorption of an excess of phosphorus is followed by its excretion in the urine A role which the fats in the diet may play in facilitating the absorption of calcium and phophorus is suggested

**Renal Glycuresis**—Finley and Rabinowitch report six cases in which observations were made as to blood sugar time

curves, renal function, effect of diet, gaseous metabolism and glycuresis They suggest the term renal glycuresis instead of renal glycosuria as being the more appropriate

**Association of Blue Sclerotics with Brittle Bones and Deafness**—The family reported on by Stobie consists of sixty-six persons belonging to five generations Twenty-five members of the family normal and affected, have been seen, questioned and examined Eighteen members of the family, eight males and ten females, are affected The tint of blue in the sclerotics has varied from a deep porcelain blue tint to the barely demonstrable blue of the infant, which is abnormal in a child or adult One member not seen, was described as having eyes nearly black In no case have brittle bones or deafness been found in the absence of blue sclerotics The blueness of the sclerotics has not shown any relation to the grade of severity of the other symptoms Blue sclerotics without evidence of fracture occurred in ten instances Blue sclerotics with fractures occurred in eight cases Blue sclerotics with deafness occurred in only four instances Except for two instances of color blindness (dichromatic) no other failing or illness was discovered

**Inorganic Phosphorus Content of Cerebrospinal Fluid**—The inorganic phosphorus content of more than 150 cerebrospinal fluids was investigated by Cohen It was normal at from 1 25 to 2 mg per hundred cubic centimeters In meningitis—tuberculous, acute syphilitic and meningococcal—a definite increase occurs This is of diagnostic importance In chronic nervous disease the cerebrospinal fluid shows a very slightly higher average content than normal—0 18 mg per hundred cubic centimeters There is no evidence that lipoid breakdown affects the phosphate content of the cerebrospinal fluid during life, after death it appears to be a factor of great importance Evidence is brought forward to show that the increase found in meningitis is due to increased permeability of the cells of the choroid plexus (possibly other cerebral vessels), it is probable also that this factor accounts for the slightly higher average in chronic nervous disease

**Proteins in Serum in Cancer**—The possibility of detecting an increase in the proportion of globulin in cases of cancer sufficiently early for the method to be of diagnostic value and the range of variation in the proportion of globulin which is found in normal and other noncancerous states were investigated by Kennaway in 104 cases Some advanced cases of cancer showed an increase in the globulin of the serum, greater than any found in other conditions There was at the same time a diminution, probably of a compensatory nature, in the serum albumin, the net effect was an increase in the total protein It seems probable to Kennaway that the additional amount of globulin comes from the tumor, the clinical course of these cases shows that it has no appreciable immunizing action This increase in globulin is very seldom perceptible sufficiently early to be of use in diagnosis Other cases of cancer, apparently equally advanced showed no increase in the globulin A method is described for the estimation of serum proteins

## Archives Franco-Belges de Chirurgie, Brussels

27 97 192 (Feb ) 1924

*Reconstruction of Hip Joint Dupuy de Frenelle —p 97
*The Kondoleon Operation for Elephantiasic Edema E Kondoleon —p 104
Tuberculous Process in Pubis G Peeremans —p 111
Operation for Fracture of Both Radius and Ulna Courty —p 135
Traumatic Fusion of Radius and Ulna M Le Jemtel —p 141

**New Ligaments for the Hip Joint**—De Frenelle protests against the blind methods in vogue for correcting congenital dislocation and other anomalies of the hip joint He advocates Sherman's method of opening the capsule and severing impeding tissues But he supplements this with new artificial ligaments This restores approximately normal conditions in the hip joint, and renders immobilization unnecessary The new round ligament is made by boring a passage from the neck through the head of the femur and through the acetabulum above The ends of the artificial tendon (from calf or reindeer) are drawn through this tunneled passage, and are tied together This holds the head firmly in place, while not hampering the movements of the joint The ischiocapsular ligament is reconstructed in the same way, with two artificial tendons passed through holes bored in the iliac spine and the greater trochanter The article is illustrated

**Ultimate Results of the Kondoleon Operation for Elephantiasic Edema**—Kondoleon's method of extensive excision of aponeurosis in treatment of chronic lymphatic edema was described in THE JOURNAL, Sept 7, 1918, p 800 He has performed the operation in twenty cases, in the last twelve years, and others have reported a number A complete cure was realized only in the few cases without sclerosis and when the edema was not of long standing The ultimate outcome on the whole is not as good as was anticipated from the great improvement at first but, even if the cure is not always complete, enough benefit is realized, he says, to amply justify the procedure in this intractable chronic malady

## Archives de l'Institut Pasteur de Tunis

13 1 154 (April) 1924

Melitin Test for Malta Fever in Goats E Burnet —p 1
*Mammitis in Goat Carriers of Idem Burnet and Anderson —p 7
Snails and Bilharziasis in Tunis M Langeron —p 19
Madura Foot in Tunis G Anderson —p 68
Tests of Adulteration of Coagulated Milk J Bance —p 71
*Bacteria in Hot Springs Caillon and Catouillard —p 98
Improved Technic for Treatment of Rabies P Remlinger —p 114
Cestodes of Cats in Tunis S Mazza —p 120
Prophylaxis of Bilharziasis C Anderson and E Gobert —p 125
Pigmented Xeroderma in Tunis H Jamin —p 129

**Goat Carriers of Micrococcus Melitensis**—Burnet and Anderson say that no tests are constantly positive in goats with melitensis infection The general health may not be affected, but mammitis is constant, and seems to be the essential feature of Malta fever infection in goats

**Thermophil Bacteria**—Caillon and Catouillard review what has been published on this subject, and report the various species they were able to cultivate from some Tunis hot springs One bacillus found in all seemed to be of the subtilis species, its spores bore heating to boiling point without harm

## Bulletin de l'Académie de Médecine, Paris

91 493 520 (April 22) 1924

*Varicella and Herpes Zoster A Netter —p 494
Pseudocysts in the Pancreas Brin and Denechau —p 509
Hypergenitalism Predisposes to Tuberculosis Jacquemin —p 517

**Affinity Between Chickenpox and Herpes Zoster**—Netter has compiled sixty-nine cases of zona for which varicella seemed to be responsible, or vice versa, mostly published in other countries He now tabulates seventy-two additional cases, all in France The same virus seems able to induce varicella or herpes zoster at will, changing arbitrarily at brief intervals Complement fixation tests show a crossed affinity of the antigens, resembling that between smallpox and vaccinia

## Bulletin Médical, Paris

38 489 516 (May 3) 1924

*The Complications in Tuberculosis A Jacquemin —p 495
Posttraumatic Chronic Mental Distress With or Without Hallucinations R Benon —p 496

**Complications of Pulmonary Tuberculosis**—Jacquemin discusses the helpful derivative action realized when a tuberculous bone process develops in the course of pulmonary tuberculosis He warns explicitly that the secondary process in bone or elsewhere must be left unmolested, it serves the useful purpose of a derivation and a fixation abscess But if the pulmonary process is secondary to the bone lesion, the indications and prognosis are exactly the reverse The bone or joint lesion had better be extirpated, hoping that the secondary lung lesion may subside thereafter The cases he reports confirm the benefit from these "subtracting complications of pulmonary tuberculosis the list including adenitis, arthritis, orchiepididymitis etc

## Presse Médicale, Paris

32 409-420 (May 10) 1924

*The Recurrent Branch of Spinal Nerves R Leriche.—p 409
Indications for Insulin in Diabetes H Chabanier et al —p 409
Gastrojejunostomy After Gastrectomy V Pauchet —p 412
Diathermy Plus Radiotherapy in Infantile Paralysis H Bordier —p 414
*Operative Technic in Pyosalpingitis M Roussiel —p 416

**Clinical Importance of the Recurrent Branch of the Spinal Nerves**—Leriche believes that the physiology of these nerves explains certain pathologic phenomena. He recalls that Luschka's nerve, the small recurrent or meningeal nerve, originates near each spinal ganglion, consists of spinal and sympathetic filaments, enters the spine through the intervertebral foramen, divides into ascending and descending branches which join other similar branches, and give origin to ramifications going to the vessels of the meninges and spine. Luschka's nerve is the sensory nerve of the meninges and spine, and the vasomotor nerve of the vessels of the spinal cord and spinal roots. In cases of radicotomy for relief of pain in amputation stumps, he found the region of the terminal cone and lumbar roots on the side of the amputation covered with abnormally numerous and dilated ramifying arterioles and venules. The posterior roots suffer from compression by these dilated vessels. His physiologic explanation is that the cicatricial neuroma of large nerves in a stump, acting on adjacent nerve terminals, induces sympathetic reflexes which are reflected to the periphery by way of the spinal ganglions. The reflex excitation from the ganglion may pass by the mixed nerve or by Luschka's nerve to the stump. If it takes the latter route, it disturbs the vasomotor innervation of corresponding parts of the spine, meninges and roots. This may entail vasodilatation which may invade the opposite side, and the pain will then be diffuse, without clear localization. He believes that reflex excitation from any cause, after passing through the spinal ganglion, may take the same route. This may induce remote pain in the spine or diffuse radicular disturbances, such as traumatic ascending neuritis. This is not actual neuritis, and it may cause diffuse pains, often spreading to the other side. The same explanation may be given, he says, for remote pains in the spine in pelvic, abdominal, genital or gastro-intestinal affections.

**Operative Technic in Pyosalpingitis with Adhesions**—Roussiel detaches the mesentery of the sigmoid flexure and of the cecum, and severs the round and iliolumbar ligaments for access to the adherent tumor. He emphasizes the advantage of this technic not only in cases of adhesions with the pelvis and ureter, but with adhesions between the rectum, sigmoid flexure and cecum. He gives an illustration of his method.

**32** 429-440 (May 17) 1924

*Cerebrospinal Fluid in Charcot's Disease. Guillain and Marquezy.—p. 429
*Fever Late in Syphilis. M. Bloch.—p. 432
Treatment of Lumbar Puncture Accidents. R. Dams.—p. 434
Curettage in Postpartum Puerperal Infection. Bonnecaze.—p. 434
Nontuberculous Hemoptysis. R. Laufer and G. Vitry.—p. 436
The American Research on the Toxic Effects of Local Anesthetics. L. Chemisse.—p. 436

**Colloidal Reactions of Cerebrospinal Fluid in Charcot's Disease**—Guillain and Marquezy say that examination of the cerebrospinal fluid is of great diagnostic value in multiple sclerosis (Charcot's disease). They emphasize the specific changes which occur in the fluid in the beginning of the disease when the symptomatologic diagnosis is often very difficult. These changes are the absence of or insignificant hyperleukocytosis and hyperalbuminosis, negative globulin and Wassermann reactions, and a subpositive or positive benzoin reaction.

**Fever Late in Possibly Unrecognized Syphilis**—Bloch calls attention to cases of persistent fever, with absence of physical signs, which are often labeled tuberculosis or malaria but for which old syphilitic infection is responsible. He says that in a case of indefinitely prolonged fever of pseudomalarial type, when an infectious process is not manifest, and the examination of sputum, blood, urine, and the serologic tests, hemocultures and radiography are negative, syphilis has to be considered.

## Progrès Médical, Paris

269-292 (May 3) 1924

*Ascites and Glycosuria. Loeper and Turpin.—p. 269
*Disappearance of Chlorosis. R. J. Weissenbach.—p. 270
Cerebrospinal Fluid in Syphilitic Meningitis. W. Schulmann and E. Terris.—p. 273
Treatment of Laryngitis and Croup. P. Lereboullet.—p. 277
Treatment of Metrorrhagia. R. Marsan.—p. 281
Bacteria as War Weapon. G. Espe de Metz.—p. 282
Treatment of Varicose Veins. G. Coudray.—p. 286

**Ascites and Glycosuria**—Loeper and Turpin were unable to induce alimentary glycosuria in patients with voluminous ascites from cirrhosis of the liver. After ingestion of sugar, the sugar content of the ascites rose and continued high, sometimes even when the blood sugar had begun to decline. The ascites sugar level remained high for days.

**Disappearance of Chlorosis**—Weissenbach finds that only the severer type of chlorosis is disappearing. This is probably due to better food and general hygienic conditions. Mild forms characterized by a hemoglobin index between 0.70 and 0.85 are frequent. The murmurs heard over the jugular veins are not pathognomonic, but aid the diagnosis.

305-316 (May 17) 1924

*Action of Atropin on Gastric Secretion. Loeper and Marchal.—p. 305.
Occupational Tetrachlorethane Poisoning. Feil and R. H. de Balsac.—p. 306
Inferior Segment of Uterus in Delivery. Jeannin.—p. 307
Eye Disturbances Caused by Teeth. C. Fromaget.—p. 309

**Action of Atropin on Leukopedesis and Secretion of Hydrochloric Acid**—Loeper and Marchal administered by the mouth and by injections, after a test meal of 125 c.c. of peptone water, 0.25 mg. of atropin sulphate to human subjects, and 1 mg. to the test animals. Leukopedesis which was weak in the beginning, increased notably after six hours, always twofold, but sometimes to 9,160 leukocytes in 1 c.mm. of stomach content. The increase is more pronounced in hypochlorhydria than in hyperchlorhydria. As leukopedesis increases, the secretion of hydrochloric acid decreases, and the diminution of free and combined acid prevents increase of leukocytes. The authors explain that atropin, which is an inhibitor of vagus function, diminishes acidity and acts on leukopedesis. Besides, in case of inhibited vagus function, the action of the sympathetic nerve becomes predominant, which agrees with the reports of Claude and Santenoise. The efficiency of atropin in ulcer of the stomach may be explained by assuming that leukopedesis is as useful in the healing and protection of the ulcer as hyposecretion in suppression of spasms and pains. Atropin, given by the mouth, produces a temporary but stronger and more rapid effect than by injections.

## Revue de Chirurgie, Paris

**62** 219-282, 1924

*Inhalations of Pure Oxygen in Surgery. G. Panis.—p. 219
Intermittent Dropsy of the Gallbladder. T. Astériades.—p. 231
Case of Tuberculous Osteitis of the Scapula. R. Monod.—p. 264
*Fractures of the Sella Turcica. C. Vergoz.—p. 272

**Inhalation of Oxygen in Surgery**—Panis explains that dyspnea, cyanosis and chilling after an operation are best combated by inhalation of pure oxygen. He describes four cases in which the losses of blood seemed to have been responsible for the postoperative decline in vitality, in two other cases the disturbances were evidently from operative shock. In all six the benefit from profuse inhalation of oxygen was pronounced. He warns that the oxygen must be given freely, through a mask, to obtain the desired result. The oxygen was kept up for one or two hours or was given intermittently for twenty minutes at a time, as an adjuvant to the usual measures.

**Fracture of the Sella Turcica**—In Vergoz' seven cases the patients were in coma when first seen, and there was nothing to indicate that the trauma had involved the pituitary region, the dura being intact. In eighty-five cases of fracture of the base of the skull he has compiled, the sella turcica was fractured in thirty-one.

## Schweizerische medizinische Wochenschrift, Basel

54 429-448 (May 8) 1924

*Senile and Myopic Eyeball. A. Vogt.—p. 429
*Ascarids as Cause of Disease. G. Fanconi.—p. 434
Improvements in Roentgen Ray Treatment. Steiger.—p. 438 Conc'n

**Senile and Myopic Eyeball**—Vogt draws a parallel between degenerations of myopic and of senile eyes. He believes that both conditions are hereditary.

**Ascarids as Cause of Disease**—Fanconi reports the history of a child, aged 17 months, with meningeal symptoms and severe vomiting and diarrhea. About 450 ascarids left the bowel at this time. The child had had urticaria and cough

six weeks before the onset of the diarrhea It is possible that this was due to migration of the larvae through the liver and lungs

54 449 472 (May 15) 1924

*Significance of Psychanalysis H Christoffel —p 449
*Action of Potassium Iodid on Circulation D Bloom —p 455
Acute Aortitis L Oettker —p 459 Cont'd
Origin of Amniotic Fluid O Haupth —p 463
Treatment of Hay Fever L von Gordon —p 463
'Psychanalysis and Schizophrenia' M Tramer —p 466

**Significance of Psychanalysis for Psychiatry**—Christoffel attributes the lack of understanding of psychanalysis among certain physicians partly to emotional causes (the shock to our self-complacency), partly to mental laziness In grave psychic diseases the method may be valuable, especially in diagnosis and explanation of schizophrenic symptoms Beginning paranoia or manic and depressive states may be favorably influenced by it

**Action of Potassium Iodid on the Circulation**—Bloom found a decrease in systolic pressure and increase in volume and frequency of the pulse in the majority of the patients being treated with potassium iodid Small doses (1 gm daily) were sufficient

## Pediatria, Naples

32 505 568 (May 1) 1924

*Rickets and Hereditary Syphilis O Cozzolino —p 505
Measles Micro-Organism in Stillborn Infant P Ritossa —p 513
Clinic for Infants A Luzzatto —p 523
Cerebrospinal Meningitis L Auricchio —p 553
Diphtheria of the Vulva B Vasile —p 557

**Rickets and Hereditary Syphilis**—Cozzolino found among 2,500 rachitic children only four presenting a clinical picture which corresponded to Marfan's description of syphilitic rickets Syphilis can scarcely be considered as a cause of rickets, as the latter responds to diet and light without regard to the Wassermann reaction

**Cerebrospinal Meningitis**—Auricchio observed Fromi's syndrome in the lumbar puncture fluid of an infant with epidemic meningitis The syndrome consists in xanthochromia and massive coagulation of the fluid The fluid obtained from the cerebral ventricles had only the properties typical of meningococcus meningitis

32 569 632 (May 15) 1924

*Familial Megacolon A Dalla Valle —p 569
Meningitis from Pfeiffer's Bacillus in an Infant Gerbasi —p 600
*Iron in Blood of the New Born C Gallo —p 606
Achondroplasia A Ronchi —p 611

**Familial Megacolon**—Dalla Valle publishes a case of megacolon with necropsy findings in the brother of a similar patient whose history he had reported previously

**Iron in Blood of the New-Born**—Gallo found between 0 034 and 0 055 per cent of iron in the blood of the new-born The average figures were lower than in adults There was no direct proportion between the amount of hemoglobin and of iron

## Policlinico, Rome

31 543 574 (April 28) 1924

*Agglutinating Serum for Typhoid A Caserto —p 543
Torsion of Spermatic Cord G Nicolich Jr —p 549
Aspiration from Serous Cavities A de Martini —p 547
Blood of the Tuberculous at High Altitudes T and J Stephani —p 549
Heredity in Cardiovascular Diseases' G Galli —p 550

**Agglutinating Serum for Typhoid**—Caserto kills typhoid bacilli by drying them at a temperature of 37 or 38 C and then heating an emulsion of these bacilli at 55 C for half an hour Rabbits showed no disturbances after intravenous injections of 12 billions of these germs The production of agglutinins was rapid, and the titer very high

31 575 606 (May 5) 1924

Retracting and Fibrous Mesenteritis V Jura —p 575
Cure of Nephritis by Pneumonia F Giugni —p 581
Gymnastics in Orthostatic Albuminuria A Gismondi —p 584
*Preventive Vaccination in Scarlet Fever A Piattelli —p 586
Determination of Blood Urea G Egidi —p 587

**Cure of Nephritis by Pneumonia**—Giugni had been treating a young man with a hydropigenous type of nephritis and high blood pressure The function of the kidney improved materially with the onset of lobar pneumonia, which ended favorably with a crisis Within a few days all the signs of nephritis, including the hypertension, disappeared He believes that the pneumonia acted like a protein shock

**Preventive Vaccination in Scarlet Fever**—Piattelli used Caronia's vaccine in fifty-nine children during an epidemic of scarlet fever None of the vaccinated contracted the disease

31 607 638 (May 12) 1924

*Exudates and Transudates A Borgherini Scarabellin, Jr —p 607
Sacralization of Lumbar Vertebrae E Sciaky —p 610
Proteins in Cerebrospinal Fluid F Alzona —p 613

**Exudates and Transudates**—Borgherini-Scarabellin considers Rivalta's test as preferable to others A few drops of the fluid produce a smoky turbidity when falling in 100 c c of water acidified by a few drops of glacial acetic acid Martini's test, based on titration with phenolphthalein, gives quantitative results Sochansky's method is only a modification of the latter

31 245 292 (May 1) 1924 Medical Section

*Biologic Tests for Syphilis in Malaria A Businco and P Foltz —p 245
*Monocytosis in Malaria I Meo-Colombo —p 255
Malaria Between Epidemics R Viviani and G Martinelli —p 268
*Epidemic Dysphagia E Vampre —p 279

**Biologic Tests in Syphilis and Malaria**—Businco and Foltz applied the various serologic tests to the serum from fifty persons with different forms of malaria The response was weakly positive in four cases, and syphilis was probable in these In over 78 per cent of the others the reactions were constantly negative, in 8 6 per cent there was autofixation, and in 11 8 per cent slight inhibition and hemolysis, evidently aspecific fixations Pure chronic malaria was constantly negative Association with syphilis always gave clear and decided positive reactions

**Monocytosis in Malaria**—The Roman school has always ascribed a certain importance to monocytosis in the diagnosis of malaria Meo-Colombo always found pronounced monocytosis by the fourth day in the adult cases examined In children there was no monocytosis, but their physiologic lymphocytosis was exaggerated

**Epidemic Intermittent Dysphagia**—Vampre relates that the *mal de engasgo* has been explained by the roentgen rays as an intermittent spasm of the cardia and adjacent esophagus It is probably of parasitic origin, and the only effectual treatment seems to be the slitting of the muscular ring of the cardia, leaving the mucosa intact

31 233 288 (May 15) 1924 Surgical Section

*Death from Burns R Brancati —p 233
Biliary Cysts of Liver in Children I Scalone —p 260
Tuberculous Spondylitis G Egidi —p 275

**Death from Burns**—Brancati believes that death in cases of burns is due to an anaphylactic shock from the proteins changed by the heat

## Archivos Latino-Amer de Pediatría, Buenos Aires

18 129 192 (March) 1924

*Determination of Malnutrition Garrahan and Bettinotti —p 129
Case of Disturbances from Cervical Rib J A Praderi —p 138
*Enteromesenteric Cysts of Embryonal Origin in Children Prudencio de Pena —p 144
*Habitual Vomiting in Breast Fed Infants R Berro —p 168

**Methods of Determining Malnutrition in Children**—Garrahan and Bettinotti compared the findings with the various methods applied to 2040 school children at Buenos Aires Their conclusion is that the use of the Wood tables seems fully as instructive and reliable as any of the more complicated methods for detecting the undernourished

**Mesenteric Cysts in Children**—De Pena describes four cases of large enteromesenteric cysts of embryonal origin All required resection of the bowel, and one child of 2 recovered after the operation In this case the diagnosis had been tuberculous peritonitis at first and later, congenital hydronephrosis The cyst was on the lower ileum and, after evacuation of a liter of fluid, the cyst was sutured to the abdominal incision, rinsed with ether and drained, with smooth recovery

**Habitual Vomiting in Nurslings**—Berro does not attempt to decide whether the extreme nervousness, which is the rule

in these children, is secondary to the vomiting or is the cause But it is sometimes possible to avert the vomiting by giving the child the breast in a dark, quiet room A single hasty movement or loud voice may bring on the vomiting, while it may be escaped by absolute quiet If the child does not lose in weight, drastic measures are not needed In three of his cases the child was evidently not getting enough milk, and the vomiting ceased when mixed feeding was started

## Brazil-Medico, Rio de Janeiro

1 229 244 (April 26) 1924

*Treatment of Squint G de Andrade —p 229
*Transmissibility of Leprosy Belmiro Valverde —p 233
Emergency Surgery Traumatic Lesions P P Paes de Carvalho —p 236
French Works on Cardiovascular Disease in 1923 E Donzelot —p 238

**Strabismus** —De Andrade expatiates on the superior advantages of combining tenotomy with advancement of the muscle at the same operation, for pronounced strabismus

**Transmissibility of Leprosy** —Valverde calls attention to a case of leprosy acquired at Paris from a leper father This disproves the theory of mosquito transmission, as the mosquitoes incriminated are not found at Paris

## Revista Médica del Uruguay, Montevideo

27 65 96 (March) 1924

Pseudoleukemic Splenic Anemia W Piaggio Garzon —p 65
*Protracted Pneumococcus Meningitis E Portu Pereyra —p 70
Ileus from Chronic Appendicitis A Rodriguez Castro —p 76

**Protracted Pneumococcus Meningitis** —The meningitis had followed otitis in the two little girls, and it proved fatal in a month notwithstanding antiserum treatment Polymorphonuclears formed 94 to 99 per cent of the elements in the spinal fluid in the first case, but in the second case, lymphocytes formed 75 per cent at first, but at the third puncture the polymorphonuclears had reached 98 per cent

## Siglo Médico, Madrid

73 361 384 (April 12) 1924

*Integral Therapeutics A Pulido —p 361
*Early Diagnosis of Tabes G R Lafora —p 362
Present Status of Lithotrity A Mut y Gil —p 366
Sleeping Sickness Endemic in Spanish Island Colony P Huerta —p 367
Local Treatment of Cancer P Peña Novo —p 371
Hydrotherapy Marquez y Rodriguez —p 372
When is Abortion Indicated? Ignacio Fedriani —p 374

**Integral Therapeutics** —Pulido remarks that the experience accumulated in years of practice should be regarded as a capital to be invested, as in public utilities, for the welfare of the community He draws on his own fifty years of practice and nearly forty consecutive years in parliament to sustain his plea for integral therapeutics, publishing some letters which he wrote to certain patients as part of their course of treatment, diverting and guiding their minds into new channels

**Early Diagnosis of Tabes** —Lafora comments on some instructive cases which show that precious time is wasted, in incipient tabes, on treatment of supposed "rheumatic pains" instead of recognizing the tabetic nature of the pains or paresthesias in the feet or in the stomach The Wassermann test may be negative in the spinal fluid and even in the blood, while the knee-jerk may be intact Tracing the history back in a case of tabes we can see that, years before, certain warning symptoms might have given the alarm if they had been heeded, but the physicians wait before diagnosing tabes until a triad of unmistakable symptoms develop, and then the favorable stage for treatment is past This is particularly liable to occur in case of tabes in a medical man The tabes process begins usually in one nerve root, and this sets up one or more symptoms The knee-jerk may even be exaggerated for a time

## Archiv fur klinische Chirurgie, Berlin

129 435 656 (May 10) 1924

No Bone Production from Connective Tissue C Rohde —p 435
Operative Treatment of Rachitic Curvature E Busch —p 470
Chronic Colitic Changes C Schroeder —p 479
Callus in Endosteum E Bergmann —p 490
*Reduction of Size of Stomach W Dreifuss —p 495
Progressive Cystic Chylangioma W Sudhoff —p 515
*Metatarsal Bone Disease H Koch —p 535
*Complication of Anesthesia by the Rectum E von Zalka —p 547
Development of the Tuberosity of the Tibia E Fels —p 552
*Splenectomy in Essential Thrombopenia D Engel —p 563
Resection of Stomach by Billroth I A Schüppel —p 589
Experimental Research on Influence of Suprarenals and Testes on Tendency to Convulsions C H Lasch —p 601
Anemic Infarct in Bone After Fracture Gastreich —p 616
Biologic Analysis of Inflammatory Process Idem —p 621
Defects of Gastroscopes Hitherto in Use W Sternberg —p 629
Pirquet and Wildbolz Tests in Surgical Tuberculosis Landau —p 636
*Blood Grouping as Guide in Skin Grafting A Kubanyi —p 644
*Reduction of Dislocated Shoulder J Malis —p 648
Case of Fracture of the Penis Idem —p 651
*"Bloodless Splenectomy" F O Hess —p 654
"Healing of Wounds After Sympathectomy" E Liek —p 656

**Operation to Correct Chronically Enlarged Stomach** —The principle of this operation is like that of gastroplicatio, suturing folds in the stomach wall to reduce the size of the organ The thick folds thus taken up protrude inside and hamper the functioning of the stomach This is avoided by Rehn's technic which cuts out the thick part of the stomach wall, leaving only the mucosa to form the fold to protrude into the lumen He excises one or two crescents or oval pieces on the anterior aspect of the stomach, cutting down only to the submucosa, leaving the mucosa intact The gap in the serosa and musculature is then sutured The results were excellent in the two clinical cases in which the operation has been applied to date It can be used to supplement various operations on the stomach

**The Deutschlander Metatarsus Disease** —Koch explains this well defined affection as the insidious outcome of some inflammatory process or trauma of the shaft of a metatarsal bone In a case described, the fifth metatarsal bone was split, the anomaly occurring in the unusually delicate bone under the influence of occupational long standing

**Complication of Intrarectal Anesthesia** —Zalka ascribes the torsion of the mesentery of the small intestine in the case described to the rectal administration of the ether

**Splenectomy for Essential Thrombopenia** —Engel gives summaries of nineteen cases he has found on record in which the spleen was removed as a last resort on account of secondary anemia from years of hemorrhages into the skin and mucosa The tendency to hemorrhage was arrested at once, sometimes even after mere ligation of the splenic artery, and the improvement has persisted, becoming even more pronounced with time In one acute case with the operation the second day of the acute hemorrhagic purpura, the girl of 16 died in a few hours with no signs of benefit This same adverse course was noted in two other acute cases in Engel's own experience, while the benefit was pronounced in one other acute and in his chronic case In one of his fatal acute cases, extensive foci of necrosis of the bone marrow were found in a vertebra, the only bone available for examination This affection of the bone marrow was probably the source of the intense thrombopenia in the young man which proved fatal the fourth day notwithstanding the splenectomy Engel remarks that the etiology of acute hemorrhagic purpura evidently differs from that of the chronic cases, only in the latter alone can splenectomy be counted on to relieve

Lemaire and Debaisieux have recently reported equally prompt recovery in a case of essential thrombocytopenia after mere ligation of the splenic artery Their communication in the *Bulletin* of the Belgian Academy of Medicine, March 29, 1924, p 149, states that the hemorrhagic purpura had developed abruptly in the boy of 15 in the midst of apparent health, with severe hemorrhages, the thrombocytes 2,500 The anemia was so extreme in a month that splenectomy seemed out of the question, and the splenic artery was ligated where it passed along the upper margin of the pancreas, near the third pancreatic branch The thrombocytes numbered 32,000 in two days and there were no further hemorrhages The blood platelets had increased by the ninth day to 76,000 and by the sixteenth to 238,000

**Blood Grouping Tests Before Skin Grafts** —Kubanyi's experimental and clinical experience has demonstrated that homoplastic transplants "take" better when infant or embryonal tissues are used, and also when the blood of the donor and recipient show iso-agglutination

**Reduction of Dislocation of the Shoulder** —Malis ties a towel around the table top and the chest of the horizontally

reclining patient to hold the trunk firm Then he draws the humerus up vertically with his right hand while with his left thumb on the head of the humerus in the axillary fossa he manipulates the head into its proper place If an assistant draws up the humerus, then both hands can be used in manipulating the head into place

"Bloodless Splenectomy"—Hess comments on a recent article which recommended subcutaneous injection of epinephrin preliminary to splenectomy, saying that his and others' experimental research has demonstrated that the superposed depressing action on the heart of the anesthetic and the epinephrin makes a dangerous combination

## Deutsche medizinische Wochenschrift, Leipzig

50 593 624 (May 9) 1924

Homosexuality F Kehrer —p 593
*Auto-Implantation of Endometrium A Lauche —p 595
Blood Sugar in Cancer H Biermer —p 597
*Blood Transfusion and Anaphylaxis A Bottner —p 599
*Gage of Resorption of Effusions H Deist —p 600
Treatment of Dysmenorrhea T Brandess —p 601
*Breast Nursing in Puerperal Affections Runge and Lauer —p 602
*Idiopathic Digestive Insufficiency A Mader —p 604
Palpation with Direct Visual Inspection in Exploration of the Duodenum W Sternberg —p 605
*Mushroom Poisoning from Breast Milk Buttenwieser and Bodenheimer —p 607
Hypnotism E Kindborg —p 608
Sedimentation Test and Differential Count G Volk —p 610
*Corneal Herpes from Ovarian Disturbance A Niedermeyer —p 611
Jaundice After Transfusion of Blood W Bayer —p 612
*Alcoholism and Tuberculosis I W Samson —p 613
Experiences of a Ship's Medical Officer A Weilbauer —p 615

**Auto-Implantation of Endometrium**—Lauche reviews his own findings and the German literature on heterotopic proliferation of epithelial cells in the peritoneal cavity of women He finds only confirmations of Sampson's theory of the origin of hyperplastic epithelium, resembling the uterine mucosa Sampson explains it by auto-implantation of particles of uterine mucosa during menstruation Hemorrhages may occur in these tumors during the following menstruations

**Anaphylaxis in Blood Transfusions**—Bottner observed several instances of shock from a second transfusion of compatible blood in pernicious anemia patients He believes that the time of the harmful transfusion—from three to six weeks after the first—as well as the eosinophilia which occurred, indicate phenomena of anaphylaxis

**Chlorid Metabolism as Gage of Resorption of Effusions**—Deist found an increased elimination of chlorids during resorption of pleural effusions A salt-free diet is indicated

**Breast Nursing in Puerperal Affections**—Runge and Lauer continue breast nursing in puerperal affections The quantity of milk decreases and mixed feeding has to be used in addition Only in puerperal sepsis is breast nursing suspended Tuberculosis of the mother forms a strict contraindication for nursing

**Idiopathic Digestive Insufficiency**—Mader emphasizes the nervous stigmata in children suffering from the so-called idiopathic insufficiency of digestion (Herter's disease) The patients do not increase and may lose in weight, diarrhea is common There is hyperacidity of the stomach contents and, as a rule, eosinophilia Proteins are preferable during diarrheas, but a mixed diet helps sometimes Calcium has proved beneficial

**Poison of Amanita in Breast Milk**—Buttenwieser and Bodenheimer observed toxic symptoms in a 17 days old baby, nursed by his mother who had been poisoned by mushrooms (*Amanita phalloides*) Experiments on guinea-pigs made the transmission of the poison by the milk seem very probable

**Corneal Herpes from Ovarian Disturbance**—Niedermeyer reports the history of a patient with a corneal herpes recurring with menstruation Vision was already impaired when he began treatment with injections of ovarian preparations The patient recovered

**Alcoholism and Tuberculosis**—Samson has been collecting statistics in regard to alcoholism and incidence of tuberculosis in the prostitutes of Berlin. His figures confirm those of Koelsch who found less tuberculosis in alcohol addicts than in normal subjects Orth concluded from the necropsies of 218 hard drinkers that they are less endangered by tuberculosis than the nonalcoholic He emphasizes that the temperance movement is not discredited by these findings, but that this movement has to be sustained by arguments which can stand scientific criticism

50 625 664 (May 16) 1924

*Streptococci in the Blood R Freund and E Berger —p 625
Infectious Endocarditis Isaac Krieger and Friedlaender —p 627
*Fat and Urobilin in Stools in Tuberculosis H Friedrich —p 632
*Mucous Colitis S Went —p 632
*Picrotoxin Hyperglycemia and Insulin V M Kogan —p 634
Typical Ganglion on Finger Sonntag —p 635
*Artificial Relaxation of Muscles in Fractures E Moser —p 637
Danger of Feeding to Fatten Babies L Langstein —p 638
*Enuresis P Karger —p 639
Normal Amboceptor for Sheep's Blood and the Wassermann Test P Schwarz —p 641
*Percussion by Machine A Pohl —p 643
Quantitative Determination of Albumin P Levi Cranlsheim and W Kiel —p 644
Scar Murmurs in Healed Tuberculosis Stroux —p 644
Artificial Respiration in the New Born H Baumm —p 645
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Recent Progress in Orthopedics Debrunner —p 646
The Meat Supply Question Foth —p 648
The Work of German Colonial Physicians Steudel —p 649
Budget of Public Health and Education Department O Strauss —p 651
Physicians and Social Insurance S Alexander —p 652
Psychology of Anthroposophy Vorwahl —p 653

**Streptococci in the Blood**—Freund and Berger had very good results with the following culture method They set aside from 5 to 10 c c of the patient's blood to clot The serum is poured off completely and the remaining blood clot is incubated in 50 c c of bouillon containing 10 per cent of horse serum A few drops of this fluid are inoculated daily on blood-agar plates

**Fat and Urobilin in Stools in Tuberculosis**—Friedrich in eight necropsies confirmed Ehrmann's and Wolff's observations on the fatty degeneration of the liver in tuberculous patients with fatty stools The amount of urobilin in the feces of such patients is lowered He believes that the fatty stools are due to an insufficient secretion of bile

**Mucous Colitis**—Went treats mucous colitis with three injections of autogenous colon bacilli

**Picrotoxin Hyperglycemia and Insulin**—Kogan found that insulin lowers or prevents, in rabbits, the hyperglycemia from picrotoxin

**Artificial Relaxation of Muscles in Fractures**—Moser emphasizes the advantages of his method of artificial relaxation of the muscles in cases of fractures and dislocations An injection of procain into the extensors and flexors of the arm makes the reduction of dislocation of the elbow an easy task These injections are also useful in the treatment of fractures, and shorten considerably the time necessary for the treatment by extension The method was published in 1922 and was rediscovered by others in 1923

**Enuresis**—Karger points out the necessity for examining the child for organic disease The enuresis begins sometimes after a rhinitis or any other disturbance of the nasal respiration The pharynx gets dry when the child breathes through the mouth Thirst and drinking follow, and the latter is continued as a habit Almost every case of alleged diabetes insipidus in children is of this origin Restriction of water intake cures the condition A good method in enuresis consists in training the child to urinate in the day time at longer intervals If they are as long as four hours, the enuresis stops as a rule Disagreeable drugs and paintul faradic current should be used only immediately after the enuresis, and not at other times and not as a punishment. This treatment develops a regular pedagogic conditional reflex in the child

**Percussion by Machine**—Pohl uses the differences in the pitch of the sound produced by a vibration massage apparatus for determination of the borders of organs He had good results even when examining the abdomen

## Deutsche Zeitschrift für Chirurgie, Leipzig

185 1 144 (April) 1924

*Suprarenal Virilism A Seabell —p 1
*Osteochondritis A. Lieschied and H Sellheim —p 46
*Acute Pancreatitis R Vogel —p 71

Biologic Serodiagnosis of Tuberculosis H Friedrich—p 93
*Fat Flap for Defect in Dura T Hunermann—p 107
*Operative Treatment of Pericostal Tuberculosis H Ito—p 124
*Gastroptosis and Gastropexy E Kutscha Lissberg—p 129
*Rupture of Kidney with Hydronephrosis K Reschke—p 137

**Suprarenal Virilism and Pseudohermaphrodism** — Scabell compares with two cases he describes twenty-three from the records in which pseudohermaphrodism was associated with hyperplasia of the suprarenals, and forty-seven cases of precocious puberty, or virilism with acquired suprarenal hyperplasia Hypoplasia of the bone marrow was a frequent finding, and was conspicuous in his two personal cases In the first, the girl had been normal to the age of 12 when virilism developed, with a suprarenal tumor which proved fatal in three years In the other case hyperplasia of the suprarenals was associated with false female hermaphrodism Scabell discusses suprarenal hypergenitalism in the congenital, acquired and rudimentary forms, with special regard to pathologic constitutions

**Osteochondritis and Endocrine Derangement** — Lieschied and Sellheim report the case of a young woman with multiple juvenile osteochondritis and ovarian insufficiency which had entailed a female eunuchoid growth After ovary grafting, the osteochondritis improved remarkably, confirming its endocrine origin, and suggesting tentative organotherapy in every case of osteochondritis in the young

**Acute Pancreatitis**—In many of Vogel's fifty-five cases of acute pancreatitis the diagnosis had been erroneous In nine cases perforation of a gastric ulcer had been assumed, and cholecystitis in sixteen The previous disturbances that had suggested gastric ulcer had probably been slight attacks of pancreatitis that had retrogressed In 42 per cent of the total cases there were complications in the biliary passages In two cases a contusion and in three a childbirth had preceded the pancreatitis Nearly all the patients displayed a tendency to obesity The ages ranged from 17 to 78 The mortality in the fifty-one operative cases averaged 59 per cent, even in the favorable cases, the fistula was long in healing

**Fat Tissue for Repair of the Dura** — In the eight cases described, the adipose tissue to patch the gap in the dura was taken from the patient's thigh Examination from twenty to 330 days afterward showed that the fat tissue was still soft and elastic, retaining its histologic characters

**Pericostal Tuberculosis**—Ito packs the dead space after the focus has been cleared out with a pedunculated muscle flap and then sutures without draining He thinks this principle should be applied even to a cold abscess unless there is mixed infection

**Gastropexy** — Kutscha-Lissberg reports the complete cure in his five cases of severe stomach disturbances from gastroptosis, after gastro-enterostomy and fastening the stomach in place by Rovsing's technic The ptosis had not been recognized as the cause of the disturbances, until operations on gallbladder and appendix had failed to relieve

**Rupture of Kidney in Hydronephrosis**—Reschke adds two more to the twenty-three cases on record of this eventuality Eleven recovered of the seventeen with immediate nephrectomy, but 75 per cent died of the nephrotomy cases

## Klinische Wochenschrift, Berlin

3 817 864 (May 6) 1924

Stomach Motor Reflexes P Klee—p 817
Slow and Acute Heart Failure H v Hoesslin—p 819
Protein Coagulation and Precipitation and Tissue Permeability W Heubner—p 824
Metals as Secondary Source of Rays A Liechti—p 825
Epileptic Symptoms and Brain Lesions E Feuchtwanger—p 828
*Blood Platelets in Hemophilia R Feissly and A Fried—p 831
*Amino Acids in Fever J Donath and R Heilig—p 834
*Serologic Unity of Colon Bacilli Meyer and Löwenberg—p 836
"Scurvy, Infection and Dysergia" Abels—p 838 Reply Nassau—p 838
Activation of Microbes by Extracts Weichardt and Scholz—p 839
*Blood Coagulation and Sedimentation E Wohlisch—p 839
Acute Atrophy of the Liver in Syphilis H Jacoby—p 840
Perinephritic Suppurations K Scheele—p 841
Psychology of Occultism E Straus—p 843
Diabetes Insipidus and Infundibular Region E Frank—p 847
Conc'n, p 895

**Blood Platelets in Hemophilia**—Feissly and Fried saw no difference in the acceleration of coagulation in normal plasma on adding blood platelets from healthy or from hemophilic subjects The latter acted less strongly only on a hemophilic plasma They attribute the delayed coagulability in hemophilia to malfunction of the thrombin-forming part of the blood plasma

**Amino-Acids in Fever**—Donath and Heilig found an increase in the amino-acid nitrogen of the blood plasma (up to 61 per cent) whenever an injection of proteins or sulphur had produced fever No increase was observed during fever in malaria, tuberculosis and sepsis

**Serologic Unity of Colon Bacilli**—Meyer and Lowenberg consider the hemolytic strains of colon bacilli as practically one serologic group The nonhemolytic require homologous immune serum, but this agglutinates, as a rule, many hemolytic strains

**Blood Coagulation and Sedimentation**—Wohlisch applied strong pressure to precipitated fibrinogen When redissolved, the protein coagulated on being diluted with from 1 to 2 per cent sodium chlorid solution He believes that the expression removed mechanically a stabilizing colloid and, therefore, agrees now with Herzfeld and Klinger's theory

3 865 912 (May 13) 1924

*Extrapyramidal Affections A Jakob—p 865
*Vital Staining of Wounds W v Gaza—p 870
*Lipase of Serum and Liver J Broekmeyer—p 874
Goats' Milk Anemia B de Rudder—p 876
Surgery of Bronchial Asthma F W Kaess—p 880
Action of Dehydrocholalic Acid E Neubauer—p 883
Inunction Treatment with Bismuth F W Oelze—p 883
"Physiology of Palpation" Hausmann—p 884 Reply Gold cheider—p 884
*Permeability and Sympathetic Innervation L Asher, J Abelin and N Scheinfinkel—p 885
The Sympathetic and Muscle Tonus S Fujimori—p 885
*Caloric Reaction of Labyrinth S Fujimori—p 885
Ulcer of Stomach L v Friedrich—p 886
Diagnosis of Syphilis of Aorta G Hubert—p 886
Medical Examination of Students L Loeffler—p 892

**Extrapyramidal Affections**—Jakob surveys the histopathology of chorea, Parkinson's disease, athetosis and similar conditions

**Vital Staining of Wounds**—Gaza injected colloidal metals and stains in granulation tissue He saw all the stages between adventitia cells and free histocytes

**Lipase of Serum and Liver**—Broekmeyer found that the action of the normal lipolytic ferment of the serum is inhibited by small amounts of strychnin and especially by cocain The drugs do not act on the lipase of the liver

**Permeability and Sympathetic Innervation**—Asher, Abelin and Scheinfinkel extirpated in cats one cervical sympathetic and produced salivation by injection of pilocarpin Both submaxillary glands produced equal amounts of secretion, but the saliva from the operated side contained only one half as much chlorids as the other side

**Caloric Reaction of Labyrinth**—Fujimori's experiments on pigeons convinced him that the lymph stream in the semicircular canals does not cause the caloric reaction, and that even the canals themselves are not the only organs on which the caloric stimulus acts

## Medizinische Klinik, Berlin

20 625 660 (May 11) 1924

*Diagnosis of Appendicitis E Konig—p 625
*Aspect of Human Iris in Health and Disease W Gilbert—p 629
Conc'n
*Pancreas Hormone and Utilization of Sugar Robert Wertheimer—p 632
Autochthonous Malaria in Child at Prague J Langer—p 636
*Diagnosis of Stage of Pleurisy R Peyrer—p 637
*Acute Purulent Perimeningitis F Kelenburg—p 640
*Convalescents' Serum in Chickenpox W Schmidt—p 642
Poisoning with Oil of Chenopodium Von Liebenstein—p 642
*Lipoid Spots in Intima of the Aorta M Westenhöfer—p 643
Fornet's Tuberculosis Reagent P Pitzen—p 645
Indications for Roentgen Treatment H Fritsch—p 647

**Diagnosis of Appendicitis**—Konig found the diagnosis wrong in 18 per cent of the patients sent to the clinic for an operation for acute appendicitis, and in 35 per cent of the supposed chronic cases Affections of the female sex

organs were the most frequent cause of error Vaginal examination should precede appendectomy in women as well as rectal examination in men The shifting of the pain from the epigastrium to the right hypogastrium is a very important sign of appendicitis Bilateral pains speak for salpingitis The two affections may be combined The pain follows the whole extent of the colon in colitis Pneumonia in children and typhoid are to be thought of as possibilities when there is high fever Typhoid should be suspected when headaches are present The face is flushed in pneumonia, and there may be herpes There is no facies abdominalis in these patients Spasms of the bowel and umbilical colics of nervous children, without increase in temperature, have caused many unnecessary operations The pain in affections of the gallbladder stops after infiltration of the right tenth thoracic nerve An idiopathic serous peritonitis—perhaps of influenzal origin—causes, in the young, acute diffuse abdominal pains, vomiting and other signs of perforative peritonitis Hematuria does not exclude appendicitis Surgical treatment is necessary whenever the diagnosis is certain or probable It should be omitted in all other patients

**Aspect of Human Iris in Health and Disease**—Gilbert describes the appearance of the iris in healthy and sick subjects He gives an amusing account of the "iriscopy" species of quacks, especially the Swedish pastor, Liljequist, and Felke

**Pancreas Hormone and Utilization of Sugar**—Wertheimer found marked differences between the sugar content of the arteries and of the veins in healthy subjects and animals, even during rest of the muscles Such differences were not present in human diabetes nor in pancreatectomized dogs The pancreatic hormone acts not only on the liver but also on other tissues (muscles), increasing glycogen formation and sugar destruction

**Diagnosis of Stage of Pleurisy**—Peyrer considers the daily measuring of the urine and especially a diuresis test as the best means to determine whether a pleuritic effusion is increasing or being resorbed

**Acute Purulent Perimeningitis**—Keienburg describes a case of acute purulent perimeningitis There were all the meningeal symptoms except disturbance of consciousness The cerebrospinal fluid was only slightly turbid, while the extradural space contained pus with staphylococci The patient recovered after extradural and intradural injections of 3 c c of a 0 1 per cent solution of acriflavin

**Convalescents' Serum in Chickenpox**—Schmidt was not able to prevent varicella by injections of 7 5 or 8 c c of convalescents' serum in the incubation period

**Lipoid Spots in Intima of the Aorta**—Westenhofer considers the origin of patches of sclerosis as entirely different from that of lipoid degenerations The former are localized in the aorta where it gives off the intercostal arteries, and are due to traction on the intima by the flowing blood stream The lipoid patches correspond to the uneven parts of the spine, and are caused by the pressure of the intima against it.

## Munchener medizinische Wochenschrift, Munich

**71** 601 632 (May 9) 1924

Determination of Bismuth in Organs Autenrieth and Meyer—p 601
The Cardiac Nerves and Asthma E K Frey—p 603
Suboccipital Puncture M Pfister—p 603
Strap Technic for Hip Joint Casts H Knorr—p 605
*The Molars in Congenital Syphilis H Pfluger—p 605
*Theory of Wassermann Reaction R Griesbach—p 607
Spirochetes in Sections W Krantz—p 608
*Skin Diphtheria in Infants I Reinhardt—p 610
The Constitution Question Lehmann—p 611
*Moving Pictures of Heart P v Zezschwitz—p 614
Serotherapy of Diphtheria K Ochsenius—p 616
Long Retention of Fetal Parts L Geisenhofer—p 616
Case of Roentgen Injury K Stordeur—p 617
General Paralysis in Spite of Malaria Schwartz—p 618
Hydatid Cyst of Kidney J Koch—p 618
Subtrochanter Osteotomy J Hass—p 618
Psychotherapy in Heart Affections K Grassmann—p 619
Home for Recuperation of Children W Veith—p 623

**The Cardiac Nerves and Asthma**—Frey points out that severing of one pneumogastric or resection of sympathetic ganglions, as used in treatment of bronchial asthma, is dangerous if the heart is not perfect Digitalis also acts less effectively on a denervated heart

**The Molars in Congenital Syphilis**—Pfluger observed a typical "bud" shape of the first molars in adolescents with congenital syphilis A normal molar has its largest circumference at the level of the chewing surface and the smallest at the base In congenital syphilis, the base is the broadest part

**Theory of Wassermann Reaction**—Griesbach injected dried alcoholic extracts from syphilitic livers in guinea-pigs The serum of the animals gave a weak complement fixation with these extracts, but not with cholesterolized extracts from normal organs

**Skin Diphtheria in Infants**—Reinhardt's cases demonstrate the necessity to think of diphtheria in eczema or skin ulcers in infants

**Motion Pictures of Heart**—Zezschwitz reports the findings (including moving pictures) of a soldier with a shell splinter in the atrioventricular groove

**General Paralysis in Spite of Malaria**—Typical progressive paralysis developed in Schwartz's patient in the fifth year after malaria (ten attacks) The patient had syphilis fifteen years before the onset of the paralysis and had not been sufficiently treated

## Wiener klinische Wochenschrift, Vienna

**37** 431 461 (May 1) 1924

Origin of Pulmonary Tuberculosis in Soldiers P Gerber—p 431
Tuberculosis and Health Insurance A Gotzl—p 433
Exact Investigation of Tuberculosis F Hamburger—p 434
Roentgenotherapy in Bone and Joint Tuberculosis J Hass—p 435
Sanatorium Economy K Holtei—p 436
Mistakes in Diagnosis of Surgical Tuberculosis M Jerusalem—p 437
Cachexia in Tuberculosis A Kirch—p 439
Psychic Fever in Pulmonary Tuberculosis E Ladeck—p 439
*Menstrual Reaction in Pulmonary Tuberculosis H Maendl—p 440
*Diagnosis of Bronchus Carcinoma W Neumann—p 441
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Pains in Pulmonary Tuberculosis A Schick—p 444
The Treatment at the Grimmenstein Sanatorium C Siess—p 446
Prophylaxis of Tuberculosis E Weidinger—p 450
Diagnosis of Incipient Pulmonary Tuberculosis W Neumann (Supplement)—pp 1 8

**Menstrual Reaction in Pulmonary Tuberculosis**—Maendl says that auscultation during menstruation reveals in the apices of tuberculous women dry rales where in thorough examination at other times no signs of catarrh can be found His investigations show that this phenomenon is not only of help in diagnosis, but is symptomatic of an active specific process in the lungs

**Physical Diagnosis of Cancer in the Lung**—Neumann reports that with a bronchus carcinoma in the upper lobe, percussion reveals, with a normal apex area, almost complete dulness in the median half of the infraclavicular fossa The dulness extends to the third rib and to the farther side of the manubrium Auscultation in the same region shows no bronchial breathing, amphoric sounds or rales, but reveals diminished or even absence of vesicular breathing These physical findings are pathognomonic of cancer in the bronchus of the upper lobe, and make possible its early diagnosis

**37** 463 486 (May 8) 1924

Fever Type H Schur—p 463
*Nursing by Syphilitic Mothers M Hesse—p 465
*Epinephrin in Retention of Placenta R Joachimovits—p 470
Vagus Pressure Experiment D Scherf—p 471
Blood Transfusion B Breitner—p 471
*Toxicity of Diphtheria Bacilli K Fukutaki—p 474
Actinomycoses of Bones and Meninges V Ambrus—p 476
Staining of Spirochetes Dubosarsky—p 478
The Regularity of Vital Processes H H Meyer (Supplement)—pp 1 16

**Nursing by Syphilitic Mothers**—Hesse is very strongly opposed to breast nursing of apparently healthy children of syphilitic mothers The own mother might transmit the syphilis, and a wetnurse might get infected from the baby if it should prove syphilitic

**Epinephrin in Retention of Placenta**—Joachimovits dilutes 1 c c of a 0 1 per cent solution of epinephrin with 4 c c of sterile water and applies it on the hand before extracting

the placenta The blood vessels of the uterus contract immediately, and the danger of infection is diminished

**Toxicity of Diphtheria Bacilli**—Fukutaki found that the toxicity of extracts from diphtheria bacilli is due to a soluble toxin, and that it can be neutralized by the antitoxin

37 487 510 (May 15) 1924

*Parietal Valve Pneumothorax K Nather—p 491
Iodin and Gas Metabolism P Liebesny—p 494 Cont'd
Malaria Treatment of General Paralysis R Untersteiner—p 499
Psychologic Aspects of General Paralysis Treated with Malaria P Schilder—p 500
*Bacteriophage Therapy E Zdansky—p 501
Bacteriology of Leg Ulcer W Lowenfeld—p 502
Norwegian Scabies R Gruss—p 504
Phosphate Metabolism and Its Disturbances in Man H Elias (Supplement)—pp 1 16

**Parietal Valve Pneumothorax**—Nather draws attention to the frequency of little tears in the pleura occurring during operation for substernal goiter or carcinoma of the esophagus The tear may cause an inspiratory valve pneumothorax, and rapidly entail death if not recognized He recommends the use of a trocar with valve arrangement which allows passage of air during expiration

**Bacteriophage Therapy**—Zdansky found that the fluid from the sewers contains bacteriophages against most bacilli He incubated a few hundred cubic centimeters of this after addition of peptone and salt, and tested the filtrate Eventually he incubated the sewer fluid with the strain for which he wanted to obtain the lysin

## Zentralblatt fur Chirurgie, Leipzig

51 823 886 (April 19) 1924

*Pruritus as Early Symptom of Malignant Disease H Küttner—p 824
*Iodin in Surgical Tuberculosis G Hotz—p 826
Tenotomy in Treatment of Scoliosis F Loeffler—p 828
Operative Treatment for Shortened Leg Abrashanow—p 832
Vomiting as Complication of Gastro Enterostomy Metge—p 834
Mechanism of Action of Periarterial Sympathectomy Lehmann—p 838
Abdomino Anal Resection of High Rectal Cancer Moszkowicz—p 840

**Diffuse Pruritus as Premonitory Symptom of Internal Cancer**—Kuttner discusses the significance of pruritus as a premonitory symptom of malignant tumors In two cases of gastric carcinoma, for several months before the cancer became manifest, the patients had complained of unbearable itching When the pruritus was the worst, the first gastric symptoms of cancer were noted The pruritus was generalized, but no changes in the skin were noticeable The patients were well nourished, so that cachectic pruritus could not be suspected In both cases the cancers were extremely malignant and inoperable It is probable that other malignant tumors besides carcinomas produce itching in the same manner

**Iodin in Surgical Tuberculosis**—Hotz recommends the use of iodin in multiple tuberculosis of the bones, spondylitis with abscesses and fistulas, and severe cases of tuberculosis of the peritoneum with meteorism and mild manifestations of ileus It is often combined with salt baths, sun baths, roentgen-ray treatment, and when feasible, with a sojourn in sunny, high plateau regions He recommends intramuscular injection of only 1 to 4 c c of an iodin-iodoform solution, (90 parts of 10 per cent iodoform-glycerin and 10 parts of 10 per cent tincture of iodin), preceded by an injection of 2 per cent procain to lessen the pain In from two to four weeks the injection is repeated Out of an average of 120 tuberculous patients yearly he loses only four or five by death Of sixty-two patients with tuberculous peritonitis in six years, he lost four At most, four or five resections and amputations are required yearly The extirpation of isolated foci in bones and soft parts is, however, frequent, possibly forty cases every year Caution must be exercised, as local and general treatment combined easily leads to overdosage The pulse curve gives the warning

## Zentralblatt fur Gynakologie, Leipzig

48 945 1008 (May 3) 1924

Chloroform in Treatment of Asphyxia of Child During Delivery E Frey—p 946
Hemangioma of the Uterus K Hirschberg—p 957
*Midpain and Ovarian Dysmenorrhea C H Stratz—p 962
Psychotherapy in Intractable Vomiting of Pregnancy G v Wolff—p 964
Inflammatory Tumors of Greater Omentum E Hinderfeld—p 967
Differential Diagnosis of Pelvic Effusions and Pelvic Tumors H Jentter—p 970

**Midpains**—Stratz applies this term to the pains sometimes observed between the menstrual periods It occurs as a pathologic exaggeration of the physiologic processes accompanying the ripening of the ovum A distinction should be made between disturbances from ovulation and those from menstruation, as a guide in treatment

## Casopis lekaruv ceskych, Prague

63 725 760 (May 10) 1924

*Isolation of Colloids from Urine K Teige and V Podrouzek—p 725
Transient and Suspicious Glycosurias F Vanysek—p 726
*The Glycemia Curve and the Hypothalamus F Vanysek—p 731
*Treatment of Surgical Tuberculosis Zahradnicky—p 733 Conc'n
*Physiology of Carbon Dioxid Baths M Wassermann—p 741 Conc'n
"Hemolytic Immune Serums" J Kabelik—p 744 Reply Kredba—p 745

**Isolation of Colloids from Urine**—Teige and Podrouzek isolated the colloids from urine by repeated shaking and collecting the foam The product was dialyzed and found to be electronegative and resistant to heat and the action of salts It contained a large quantity of urates, which is interesting with regard to Litchtwitz' theory of the protecting action of colloids against formation of sediments The urates could be separated by shaking the aqueous solution with carbon disulphid

**The Glycemia Curve and the Hypothalamus**—Vanysek observed a rise of the blood sugar after ingestion of sugar and a rapid return in one hour to the previous level in diabetes insipidus and juvenile general paralysis with nanosomia, but not in acromegaly The salt metabolism may influence the glycemia curve

**Treatment of Surgical Tuberculosis**—Zahradnicky concludes his study of 5,175 cases of surgical tuberculosis which were observed during twenty-five years The recovery was complete in 57 7 per cent, partial in 36 7 per cent, and 4 per cent of the patients died He combines both conservative and radical methods with general treatment, including heliotherapy

**Physiology of Carbon Dioxid Baths**—Wassermann concludes his extensive review of the literature and his own observations on the action of carbonated baths He attributes the reddening of the skin to a direct absorption of carbon dioxid by the skin

63 761 796 (May 17) 1924

*The Disease of Smetana, the Composer A Heveroch—p 761
*Estimation of Heart Function in Sports Libensky—p 765
*Blood Pressure After Ski Races L Filip—p 766
Movements of the Esophagus in Phonation M Seemann—p 771
Periarterial Sympathectomy L Hybner—p 776 Cont'd
Cancer of the Esophagus E Kliment—p 780 Conc'n

**The Disease of Smetana, the Musician**—Heveroch publishes the clinical and necropsy findings on B Smetana The famous composer became deaf in 1874, when 50 years of age At first the high notes sounded differently in the two ears, later he heard whistling Afterward, dizziness set in, and at last he was able only to perceive but not to distinguish very high pitched tones He continued to work, and wrote some of his best music while deaf, using the ominous four times accented E, which had announced his disease, in his quartette "From my Life" In 1881 his mental faculties became slightly affected In 1882 transitory attacks of aphasia and alexia set in In 1883 auditory and, later, visual hallucinations appeared and arteriosclerotic dementia developed The master died in the insane asylum in 1884

**Estimation of Heart Function in Sports**—Libensky found that euphoria in an athlete cannot be considered sufficient evidence that his performance is innocuous for his future health

**Blood Pressure After Ski Races**—Filip determined the blood pressure in twenty-nine men participating in a ski race of 50 kilometers There were no signs of dyspnea The systolic blood pressure decreased in all cases, the diastolic pressure, the amplitude and the ratio between the pressures, in the majority of the men

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## ORTHOPEDIC PREVENTIVE MEDICINE *


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CHICAGO


Preventive medicine carries a wide social implication, since, by maintaining a high ratio of sound and efficient individuals, it reduces proportionately the burdens and problems imposed on the state and society by the physically handicapped Orthopedic surgery can claim a modest share in the development and application of methods of preventing disease, although our specialty is generally considered as only loosely associated with those that are recognized as having made the most important advances in preventive medicine By devoting this paper to the prevention of deformities, I hope to bring to the attention of the medical profession a realization of the effective work now being done, and of the possibilities of wider cooperation within the medical profession and with the various social agencies concerned with children and with industrial conditions

I have selected five types of cases frequently recurring in orthopedic practice through which to demonstrate the possibility of the effective prevention of deformity fractures, congenital clubfoot, rachitic deformities, traumatic spastic paralysis, and epidemic poliomyelitis

### UNFAVORABLE FRACTURE RESULTS

Every orthopedic surgeon sees many cases of deformity and of chronic lameness that are unquestionably the result of ignorance or carelessness in the first treatment of fractures We are forced to admit that a large percentage of the useless joints brought to us after earlier treatment could have been prevented by proper handling at the beginning It is unfortunate that the plaster cast, so neat and valuable in maintaining position, often conceals an unsuccessful effort to reduce a fracture of which the operator is fully aware The use of ambulatory splints adjusted by mechanics and salesmen cannot be too severely condemned The first responsibility in this matter rests on the medical schools and the hospitals, where, frequently, not enough importance is given to the proper handling of fractures to break down the all too common idea that the treatment of fractures is just a sort of "first aid" We must not be surprised at encountering this attitude among licensed practitioners, unless we constantly impress on students and interns, as a great orthopedic principle, that *no fracture is properly handled unless in the long run it secures to the patient the maximum of function and the minimum of deformity possible under the conditions*

In industrial cases, the services of even fairly well trained surgeons are often not available at the moment when efficient and preventive care is needed, because the conditions as to time and pay made by the companies are not generally of the sort to attract such men Consequently, deformity and impaired functioning of the injured part often force the victims of industrial accidents to seek further treatment, although their compensation has been settled on the basis of having already had the best The insurance companies, however, by insisting on the early return of their patients to work, are stimulating better care in the handling of their cases Indeed, though it may be a matter of contract and a financial proposition for them, insurance companies are among the foremost agencies working to secure improved health and increased efficiency for the individual

The idea of organized cooperation in our great industrial centers between the employers, the physicians, the insurance companies and the social agencies that ultimately have to meet the problems of unemployment through industrial accidents offers almost unlimited possibilities for correcting the abuses now prevalent, and securing for all injuries careful and intelligent handling from the beginning

Among other things, supervision of young underpaid company physicians by experienced orthopedic or industrial surgeons, or more frequent consultations, would go far toward the prevention of subsequent operations, with the consequent loss of time and economic hardship for the individual

### CONGENITAL CLUBFOOT

The early nonoperative method of handling clubfoot has accomplished much toward the prevention of deformity growth and in the securing of a high degree of functioning power Here, again, the orthopedic surgeon must have effective cooperation from the obstetrician, the pediatrician, the parents and the nurse, in order to begin treatment at an age when the tissues of the clubfoot, placed in a corrective position for growth, will earliest assume a natural direction Treatment should begin in the first months of life, and should consist of simple, painless, daily manipulation by the nurse or mother under the physician's direction

At 2 or 3 months, many of these feet will accept a carefully applied plaster cast or glue bandage, maintaining the slightly corrected varus and equinus, and extending from the toes to the trochanter, over the knee bent at right angles In two weeks another cast may be applied, easily obtaining more correction In this way, with successive casts, each securing additional correction, a congenital clubfoot may become entirely overcorrected without operation During the last five years in cases in which the cooperation was satisfactory, I have used no knife in the correction of clubfeet which


* From the University of Illinois College of Medicine


* Chairman's address read before the Section on Orthopedic Surgery at the Seventy Fifth Annual Session of the American Medical Association Chicago June 1924

were under treatment by the third month of life Feet treated in this way approach the normal in a surprising and gratifying manner, and save the patient both the embarrassments of deformity and the shock and pain of later operation under anesthesia

### THE PREVENTION OF RACHITIC DEFORMITIES

Deformities resulting from rickets present an entirely different type of case, and one of equal interest to the pediatrician, the obstetrician and the orthopedic surgeon Usually, the bone surgeon sees these cases after the deformity is present, often in adult patients, as rachitic deformed legs His interest is mainly in the correction by operation of leg deformities that have not been prevented These deformities, occurring often during pediatric care, not only are preventable but also are the minor ones developing from rickets

What we must acknowledge as the really serious deformity, that of contracted pelvis, is, I believe, also preventable by the use of early predeformity prone treatment This should be enforced on the gas pipe frame so that no weight or pressure will be borne by the pelvis or the legs, either in standing, or in resting, folded over the patient's abdomen (a common posture in rickety babies), or when being carried on the mother's hip—a position causing great strain to the legs and pelvis of the child Also, if children were not allowed to sit up during the soft bone stage of rickets, a large number of rachitic deformed pelvises would be prevented, and the number of cases requiring cesarean section would be greatly reduced

It is unquestionably the function of preventive medicine to make the connection between cause and effect, even when they are as widely separated in time as the rachitic girl baby and the woman whose labor is rendered difficult or impossible by a too narrow pelvis The securing of predeformity treatment for rachitic children involves not only better cooperation between the pediatrician and the orthopedic surgeon, but also the education of teachers, nurses, playground directors and all having to do with children, as to the consequences of neglect during the early processes

The suggested cooperation between the pediatrician and the orthopedic surgeon should be brought about by more frequent consultations regarding the care of these children, from both the standpoint of feeding or treatment of rickets and the prevention and correction of deformities The pediatrician may concentrate his efforts on the cure of the rickets while the deformity of the bones takes place, because the child sits and stands before their ebonization On going to the hospital, the rachitic child should be entered on the combined services of pediatrics and orthopedic surgery

### TRAUMATIC SPASTIC PARALYSIS

The case of spastic paralysis represents probably one of the greatest problems with which the orthopedic surgeon is confronted Along with the patients, he suffers a feeling of hopelessness toward all efforts to improve the condition of these helpless and afflicted children

Inquiry into the history of such cases, from our clinics, reveals the fact that difficult labor caused the majority of them This leads us directly back to the problem of the contracted pelvis, with careless, hurried or unintelligent deliveries, as the chief factor in preventability

The use of forceps is also responsible for a certain number of cases of spastic paralysis In an orthopedic clinic, recently, six of these patients were found among the thirty-two children brought in for examination It developed that the use of forceps in cases that had not been long in labor was a common practice in that region One mother, who was questioned, spoke quite familiarly of "prophylactic forceps" All this suggests immediately the need of thorough cooperation between obstetricians and orthopedic surgeons for early and scientific treatment of the rachitic child, in an effort to prevent contracted pelvis, and for more careful education of the family physician as to the dangers attending the indiscriminate use of instruments in confinement cases

### EPIDEMIC POLIOMYELITIS

An outstanding example of community cooperation for the prevention of deformities is afforded by our experience in Chicago in connection with the epidemic of poliomyelitis in 1915, when the commissioner of health used his authority to enforce the hospitalization of infantile cases

A wing of the county hospital was appropriated for this purpose, and all agencies dealing with children were enlisted in the effort to discover and report cases

In the hospital, the correct position of the paralyzed body and the limbs was strictly maintained during the acute and subacute stages of the disease; and, in the cases requiring it, the patient was dismissed with plaster supports

The necessity for follow-up care was realized, and the cooperation of a nursing organization was obtained for this purpose A few of the nurses were especially trained for infantile treatments, which were given in the homes of the patients dismissed from the hospital, with periodic visits to a supervising orthopedic surgeon regarding further treatments

Such a plan, actually working, practically eliminated later corrective operations on this group of children, leaving only the stabilizing operations as the main work the surgeon now gets Moreover, it was the beginning of a very important expansion of the work of the Visiting Nurse Association and of the development of a department for the study of infantile paralysis, with a group of nurses trained for examining infantile cases and giving orthopedic treatments in the homes

The annual report of the association shows that, during 1923, 17,053 home calls were made by the nurses of this department, and 5,908 treatments were given crippled children in schools and clinics Starting as emergency cooperation, produced by a dread epidemic, this surely points the way to unlimited preventive work, which may be accomplished by the organized efforts of such agencies in normal times

### PSYCHOLOGY

There is, however, a factor in preventive work, which, though seemingly negligible, is in reality one of the strongest obstacles we encounter I mean the psychology of the crippled child

In using the term "psychology of the crippled child," I include not only the behavior reactions of the child itself, but also the attitude toward the child of all who are associated with it—parents, companions, nurses and physicians We have to do, therefore, with the psychology of a situation of which the crippled child is a part

In this situation, the outstanding element is the fact that the crippled child, whether in poor, moderate or opulent circumstances, is almost invariably a spoiled child The process of spoiling is twofold On the part

of the parents, it is the result of the expression of natural human affection in a peculiar situation that makes of the child an object of especial attention and devotion On the child's side, it is almost invariably the tendency to exploit his handicap for the purpose of securing still further notice and indulgence

Certainly, the crippled child is entitled to special attention But, more than this, it is well known that parents always have an overflow of sympathy for an afflicted child in excess of what they feel for a normal and robust one, and in their treatment of such a child they attempt not only to compensate him for his defect, but also, quite unconsciously, to relieve their own feelings of distress and tenderness And sympathy in these cases is not confined to parents, brothers and sisters, playmates and teachers, and even nurses and physicians quickly acquire it, and the child finds it easy to dominate the little world of which he is so pathetic a center

The great majority of crippled children are quick to press to the utmost their demands for exceptional attention, and this has a direct bearing on all such cases from the standpoint of care The influence of the unfortunate child on its parents and relatives is such that, in a lamentably large number of cases, its unwillingness to be taken to a physician or a hospital results in failure to secure any treatment whatever

Thus, many children afflicted with various types of bone, nerve or muscle diseases, in which early treatment would prevent a lifelong crippled condition, are too often not seen by a physician at all Others may be seen only after the actual deformity takes place With the late treatment, as is well known, although disease may be arrested and overcome, the lost tissue cannot be replaced Again, many deformities, such as clubfoot and congenital hip, though they can be corrected later in life, give far better results and often leave no sign of the crippled condition if corrected when the child is very young

I need not point out that the prompt hospitalization of the patient has advantages over treatment in the home, however favorable the home conditions may be, not alone because of the superior organization of the physical environment in the institution, but also because of the opportunity afforded there for correcting bad habit formation in both the child and the parent

The crippled child may, indeed, be said to be unfitted for normal life in two ways, that is, from the standpoint of physical disability and in respect to his psychologic attitudes What psychologists call bad habit formation or, in plainer language, being spoiled, means that the child is not able to share in the ordinary give and take of family life, but expects and receives the exceptional treatment which we gladly give the sick, temporarily, but which is very unfortunate as a general policy from the standpoint of education, character development and life habits

It is in this connection that the hospital or the special school is of peculiar value to the child The association with other crippled and sick children, many of whom are worse off than himself, in a place where everything is regulated for the group, instead of for the individual, makes for a remarkable change in his mental attitude A socialization of his impulses and interests takes place, which is all the more valuable because unconscious

By sharing community interests, the child has his ego subordinated, and his tyrannical demands are modified in a way that astonishes the parents From a social standpoint, the child's new attitude and behavior are fully as valuable as the correction of the physical deformity, especially as the reform is in most cases a lasting one, the beneficial effects of which continue to be shown in home and school life after the child's release from the hospital

From the psychologic point of view, the parents of a crippled child constitute a more serious problem for the orthopedic surgeon than the child himself Even when intellectually convinced that the hospital is the proper place for his treatment, the parents continue to be ruled emotionally by the child's protests and wishes It is particularly in trying to avoid being sent to a hospital that the child uses his unfortunate condition as a power device for controlling the situation Here he has powerful allies in the feelings of the parents, who cannot endure the thought of separation or of arbitrary handling of their pet by doctors and hospital attendants At this juncture, a statement by the physician of the psychology of the situation usually accomplishes little The parents admit the truth of all that is said, but they are under the impression that their child is an exception, and they continue to be dominated by him

We may say, then, that the psychology of the crippled child has a direct bearing on preventive orthopedic surgery, and is an important factor in the consideration of any measures for either private or institutional care of this most unfortunate group of patients It is because the whim of a spoiled child may become a social menace that I bring this phase of the case so seriously to your attention

30 North Michigan Avenue

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# OBSERVATIONS ON THE FOUCHET TEST IN LATENT JAUNDICE

## IN A SERIES OF ONE HUNDRED AND SIXTEEN PATIENTS

FREDERICK A SPEIK, M D
E N LILJEDAHL, M D
AND
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During the last six months we have made observations on 500 patients On each one, as part of our general routine, two tests have been made One is a macroscopic test as to the presence of bile in the clear serum, the other is the Fouchet test as used to detect an increase of bilirubin in patients with so-called "latent jaundice" These tests have been made independent of each other, and without knowledge of other clinical findings

The forty patients grouped under cholelithiasis and cholecystitis are those in whom the clinical, roentgen-ray and in some instances operative findings established the diagnosis beyond question At the time of examination there was no visible jaundice, and tests for bile in the urine were negative Twenty-seven patients showed a hyperbilirubinemia by the Fouchet test, and seventeen of these had a serum that was definitely bile tinged

Hyperbilirubinemia with duodenal and gastric ulcer was present in sixteen patients In no instance were findings referable to a diseased gallbladder present, although gallbladder involvement with duodenal ulcer frequently occurs

In twenty-seven patients with syphilis who came under our observation, fourteen had a positive Fouchet test A few of these had symptoms referable to the

gastro-intestinal tract, but these disappeared with antisyphilitic treatment

A few persons who are undernourished and have a slight secondary anemia with no other pathologic findings often have a slight increase over normal in the bilirubin content of the serum

In patients with other diseases, we find an increase in bilirubin content in angina pectoris, myocarditis, colitis, tuberculosis, asthma, etc., which we consider as added evidence that it does occur

*Results of Observations*

| Diagnosis | Case No. | Fouchet Test | Microscopic, Bile in Serum | Bile in Urine | Visible Jaundice |
|---|---|---|---|---|---|
| Cholecystitis and cholelithiasis | 17 | Pos. | Pos. | Neg. | Neg. |
| Cholecystitis and cholelithiasis | 10 | Pos. | Neg. | Neg. | Neg. |
| Cholecystitis and cholelithiasis | 13 | Neg. | Neg. | Neg. | Neg. |
| Duodenal ulcer | 7 | Pos. | Pos. | Neg. | Neg. |
| Duodenal ulcer | 9 | Pos. | Neg. | Neg. | Neg. |
| Gastric ulcer | 2 | Pos. | Neg. | Neg. | Neg. |
| Cancer of the stomach | 1 | Pos. | Neg. | Neg. | Neg. |
| Chronic appendicitis | 1 | Pos. | Pos. | Neg. | Neg. |
| Diverticulitis of the sigmoid | 1 | Pos. | Neg. | Neg. | Neg. |
| Colitis | 1 | Pos. | Neg. | Neg. | Neg. |
| Secondary anemia | 2 | Pos. | Pos. | Neg. | Neg. |
| Secondary anemia | 5 | Pos. | Neg. | Neg. | Neg. |
| Pernicious anemia | 4 | Pos. | Pos. | Neg. | Neg. |
| Pulmonary tuberculosis | 3 | Pos. | Pos. | Neg. | Neg. |
| Pulmonary tuberculosis | 1 | Pos. | Neg. | Neg. | Neg. |
| Bronchial asthma | 1 | Pos. | Neg. | Neg. | Neg. |
| Hypertension | 3 | Pos. | Pos. | Neg. | Neg. |
| Chronic myocarditis | 2 | Pos. | Pos. | Neg. | Neg. |
| Chronic myocarditis | 1 | Pos. | Neg. | Neg. | Neg. |
| Angina pectoris | 1 | Pos. | Pos. | Neg. | Neg. |
| Angina pectoris | 1 | Pos. | Neg. | Neg. | Neg. |
| Chronic arthritis | 2 | Pos. | Neg. | Neg. | Neg. |
| Hyperthyroidism | 2 | Pos. | Neg. | Neg. | Neg. |
| Hypothyroidism | 1 | Pos. | Neg. | Neg. | Neg. |
| Syphilis | 9 | Pos. | Pos. | Neg. | Neg. |
| Syphilis | 5 | Pos. | Neg. | Neg. | Neg. |
| Syphilis | 13 | Neg. | Neg. | Neg. | Neg. |

SUMMARY

Hyperbilirubinemia, as shown present by a positive Fouchet test, was found in 67 per cent of patients with cholecystitis, 42 per cent showed a positive macroscopic test for bile in the clear serum

Hyperbilirubinemia is present in some patients with gastric and duodenal ulcer, syphilis, tuberculosis and other diseases

Increase in the bile content in serum can in many instances be detected by a simple observation of the clear serum, it was noted in 52 per cent of all cases who showed a positive Fouchet test

800 Auditorium Building

**Combined Dietetic and Light Treatment in Rickets**—Experimental evidence having shown that one method by which exposure to light works is by stimulating to activity the fat-soluble vitamin supplies of the body, and since the only means of access of this substance is via the food, it would seem desirable, when making use of light therapy in the treatment of disease, that the diet should be controlled at the same time This is also borne out by the fact that at least as regards bone calcification the influence of light can be completely antagonized by a defective diet Whether exposure to ultraviolet rays enhances the calcifying influence of a very good diet still remains to be proved I have treated rickets and many other pathological conditions by the combined therapy, but in no case has it been possible as yet to control the results by treating precisely similar cases only by diet or only by exposure to light Cases of rickets respond well to the combined diet and light therapy, but correct feeding alone also brings about rapid cure of this disease—Edward Mellanby Deficiency Diseases with Special Reference to Rickets, *Brit M J*, May 24, 1924

# THE USE IN STERILITY OF ANTISPASMODIC DRUGS

## IN COMBINATION WITH TRANSUTERINE INSUFFLATION OF GAS *

SAMUEL R MEAKER, M D
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For three years the transuterine insufflation of gas has been in most clinics a routine item in the investigation of sterility It was introduced by Rubin for its diagnostic value in the question of tubal patency or occlusion, and has proved to be within certain limitations a most useful test

If a pneumoperitoneum can be produced by the transuterine route, the patency of at least one tube is proved If no gas can be insufflated into the peritoneal cavity through the uterus, then we must assume that both tubes are in some way occluded, and the presence of a tubal factor in the case under consideration is definitely established

In a small group of patients, transuterine insufflation appears to have also a therapeutic value Forty or more cases have been reported in which this procedure, undertaken for diagnostic purposes, was promptly followed by pregnancy, though no other treatment was given Three such cases have occurred in my own practice

Every one who has had much experience with insufflation has come to realize that no definite conclusions can be drawn from a single negative result It often happens that a pneumoperitoneum is produced at the second, third or fourth attempt, after previous efforts have been unsuccessful In the early days of the method, many of us made the mistake of operating on patients after one negative insufflation, only to discover tubes that were to all appearances entirely normal and were even permeable to a bristle Doubtless there are some cases of this sort in which a positive result of insufflation is never obtained

Clearly there must be a factor in these cases which under certain conditions, prevents the passage of gas through the tubes, and under others has no such effect It is hard to say whether this is a variable factor, present or absent in a case at different times and under different circumstances, or whether it is constantly present in such cases until a certain number of attempts at insufflation have been made, and is then permanently eliminated as a result of the insufflations I am inclined to the former view, since on several occasions I have failed to produce a pneumoperitoneum in a patient who had previously been successfully insufflated

The fact that a positive insufflation is sometimes followed by conception would indicate that the obstacle to the passage of gas, whatever it is, may also be an obstacle to the passage of spermatozoa through the tube Repeated attempts at insufflation often result in the tubes becoming permeable to gas, and sometimes result in conception

The question naturally arises what the nature of the tubal obstruction in these cases may be Certainly there is no organic sealing, such as is commonly seen in old inflammatory lesions Light adhesions, or the cohesion of sticky mucous surfaces, or congestion and edema are all possibilities, but none of them seems a particularly reasonable explanation of the phenomena observed

* From the department of gynecology, Boston University School of Medicine

For some time I have felt that obstruction might be caused by spasmodic contraction of the circular musculature of the tube, particularly in the interstitial portion

As the tube passes through the uterine wall, the circular fibers constitute what is practically a sphincter In all probability, during life this sphincteric muscle keeps the uterine orifice of the tube lightly closed We find in insufflating perfectly normal patients that the intra-uterine gas pressure must usually be raised to a point between 60 and 80 mm of mercury before any gas enters the tubes, a sharp drop in pressure occurs as the uterine ends of the tubes are forced open

The circular musculature undoubtedly relaxes to allow the passage of the fertilized ovum into the uterus, and in normal cases is never so tightly contracted as to prevent the penetration of spermatozoa into the tube

Muscular spasm in the female pelvic organs is not an uncommon phenomenon It is a prominent feature of certain types of dysmenorrhea, and has been thought at times to cause stenosis of the os internum of the uterus From such instances of spasm in the uterus to the idea of spasm affecting the musculature of the interstitial portion of the tubes is no very far cry

In cases having a tendency to muscular spasm, it would naturally be aggravated by the intra-uterine manipulations of insufflation, and also by the nervous stimulation of coitus Hence, negative insufflations and sterility in such cases are reasonably explained as results of tubal occlusion by spasmodic contraction of the circular muscle

The foregoing ideas have suggested that the administration of antispasmodic drugs previous to insufflation might make it possible to pass gas through tubes otherwise impermeable, and to transsufflate, at relatively low pressure, patients in whom a high pressure would otherwise be required

I have followed this plan in five cases, with uniformly successful results The drug used was benzyl benzoate, in the 20 per cent alcoholic solution In the first two cases, the dosage was 5 drops each hour for six hours before insufflation Macht, in a personal communication, advises a larger dose, and in my last three cases the patients received 30 drops each hour for four hours

## REPORT OF CASES

CASE 1.—Mrs K had had four previous insufflations, two done by another physician and two by me All had been negative, although a most careful technic was followed, and pressures up to 225 mm of mercury were used A laparotomy for the investigation of the tubal condition was under consideration After six 5-minim doses of benzyl benzoate, gas passed through the tubes at a pressure of 100 mm, and a large pneumoperitoneum was produced

CASE 2.—Mrs P had had one previous insufflation, which was negative Six 5-minim doses of benzyl benzoate were given, and a second insufflation was done The result was positive at a pressure of 80 mm

CASE 3.—Mrs P had undergone four previous insufflations, the second doubtful and the other three negative After four 30 drop doses of benzyl benzoate, a positive result was obtained at 70 mm pressure

CASE 4.—Mrs McM had undergone four previous insufflations, the first two, negative In the last two, gas had been forced through the tubes at a pressure of 200 mm Insufflation after four 30 drop doses of benzyl benzoate produced a pneumoperitoneum at a pressure of 60 mm

CASE 5.—Mrs A had had two previous insufflations, with negative results Four 30-drop doses of benzyl benzoate were given, and a positive result of insufflation was obtained at a pressure of 110 mm

So it appears that spasm of the tubal musculature can undoubtedly be an obstacle to the passage of gas into the tubes If we are correct in believing that such spasm may prevent also the entrance of spermatozoa, then sterility which is proved to be of this spasmodic type should be treated by the administration of antispasmodic drugs post coitum

Spermatozoa deposited in the cervix may reach the uterine cornua within fifteen or twenty minutes The action of benzyl benzoate is manifested in an even shorter time I suggest that patients treated by the foregoing method take a large dose of benzyl benzoate, perhaps 60 drops of the 20 per cent alcoholic solution, immediately after coitus, and then, in order to maintain relaxation, follow this with doses of 30 drops every hour for three doses, and every two hours for three more As experience accumulates, we shall undoubtedly learn how to use smaller dosage in a more convenient way

We have always encountered a considerable number of sterility cases in which the real cause, even after careful investigation, has remained obscure, and all treatment has been unavailing It is to be hoped that a certain proportion of such cases can be successfully handled by the method here presented

## SUMMARY AND CONCLUSIONS

1 There is a definite group of sterile women through whose tubes gas can be passed with difficulty, or only after several attempts, or not at all, although the tubes are not sealed by adhesions, and are anatomically normal

2 The factor that prevents the passage of the gas in such cases is probably spasm of the sphincter-like circular muscle of the interstitial portion of the tube

3 The same factor can presumably prevent the entrance of spermatozoa into the tube, and so cause sterility

4 It is most important to recognize cases of this type, and to distinguish them from cases of permanent occlusion by adhesions, in order that unnecessary operations for supposedly sealed tubes may be avoided, and in order that the real factor may be properly treated

5 For the recognition of these cases, I propose the following test A first insufflation is done without preliminary medication If no gas can be made to pass through the tubes, or if gas passes only when the pressure has been raised to 150 mm or more of mercury, a second insufflation is done a day or so later after the administration of benzyl benzoate If, on the second occasion, gas passes through tubes previously impermeable, or if it passes at a pressure of less than 100 mm of mercury in cases in which a high pressure was previously required, we can consider that an obstructive degree of spasm of the tubal musculature has been demonstrated as a factor in the case

6 When it is shown by this test that a patient belongs to the group under discussion, and there is nothing else at fault with the wife or husband, then the administration of antispasmodic drugs post coitum is indicated for the treatment of sterility, and should give good results

587 Beacon Street

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**Deaths from Whooping Cough in Holland** —The deaths from whooping cough per hundred deaths in children under 14 years of age from all causes in Amsterdam in the decade 1907-1916 were 5 99 and for the whole of Holland 3 92 Per cent of total under 1 year 42 3, 1 to 4 years, 55 9, 5 years and over, 1 8, total, 100—*Public Health Rep* 38 2775 (Nov 23) 1923

# PSYCHOLOGY IN MEDICAL PRACTICE AND LEGISLATION

## THE PROFESSION'S DUTY TO ITSELF AND TO THE NATION

WELLS P EAGLETON, M D
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In 1921, the medical profession of New Jersey won the hardest fight of its history

By united demand of all its members, it compelled the state to require chiropractors to possess some education, and it prevented the legislature from licensing insufficiently educated osteopaths to practice medicine and surgery

The profession was stirred to action by the previous legislature's passage of a chiropractic law which omitted the mandatory educational requirements present in all previous licensing acts

At this time (1920) the medical profession was held in such political contempt that the assembly refused it a hearing while the bill was under discussion The resulting resentment was so general that, in answer to a call from the Welfare Committee, over one thousand physicians appeared at the state house at one time

In the history of medicine, new cults have from time to time arisen, protests against the medical customs of the day, against the accepted routine of medical practice Many of these protests have contained an element of truth—a truth overlooked by the rank and file of medicine in their busy lives of service In a few instances these protests have grown to considerable proportions but later been absorbed into medicine itself, for medicine is not sectarian, medicine is catholic, it is eternal it is truth

In the last twenty years, two cults have engaged attention out of all proportion to their importance, osteopathy and chiropractic Already one of them—osteopathy—is being absorbed into medicine, its votaries are now asking to be allowed to prescribe drugs and practice surgery

Is there a germ of truth among their many patent absurdities? Is it a scientific revelation of great moment—as the discovery of anesthesia or the bacterial cause of disease? Were such the case the medical profession would hail the advance

But it is not a great scientific truth which has been overlooked, nevertheless, their popularity and success are based on a psychologic fact that the medical profession has failed to appreciate properly

The unwell man of today demands that something be done directly to the site of his discomfort, a mere diagnosis does not satisfy him The age has become skeptical of the value of drugs have we not, ourselves made it skeptical?

The public as well as the profession has discovered that colored nauseating fluids taken internally rarely have a selective action on pain or disability

When the patient of today goes to a doctor, if the therapeutic attack is manifestly directed to the site of his pain, the patient is inclined to believe that something modern and scientific has been done for him And what is more, something scientific has been done, although it may only be psychologic

The osteopaths, with their "vertebral dislocations"—the chiropractors, with their "painless spinal adjustments," understand this and have commercialized it, while medical men, with their attentions focused on the scientific study of disease, have largely disregarded it This shows a lack of understanding of the psychology of the patient necessary for his successful treatment, although the physician may understand fully the disease itself

The profession should look the facts squarely in the face and decide whether the time has not come to treat systematically our patients, psychologically as well as medicinally Should we not realize that in many diseases personal manipulation, massage, etc, of the patient is a good thing—for many headaches, for pains in the muscles and joints, even for the relief of the aches and pains of many of the acute infections?

All specialists utilize personal applications as far as they are of any real technical value The orthopedists with their apparatus, massage and electric therapeutics, the rhinologists with their sprays, the aurists with their eustachian catheters, Politzer's bags and electric vibrators, and the eye men with their drops and ointments, but the general practitioner contents himself, on his rounds, with a prescription pad and a case of drugs, and a violet ray apparatus in his office The importance of mechanical factors in pathologic conditions and psychologic states has not as yet reached his subconsciousness

Again, are we not apt to be too careless about details apparently trivial but which, psychologically, may be of the greatest importance for success in treatment? We tell a patient, off-hand, to "take exercise" He does so for a day but neglects it on the second generally because it is inconvenient or bores him If, however, a definite walk, at a definite time, to be followed by a prescribed meal, is ordered, and his imagination is enlisted by a weighing machine, a calory table and a little mathematics, he implicitly follows directions

Naunheim cures decompensation by bathing and carefully regulated mountain exercises Golf has cured more diseases of metabolism than drugs, but the cure is rarely assigned to the physician suggesting it, although always accorded to Naunheim, largely because of the doctor's failure to be specific, compelling the patient to discover for himself the exact time, degree and amount of play, and the associated diet and rest necessary for him to obtain the maximum benefit

Lastly, have we not gone somewhat astray in our neglect, as formerly, in our use of drugs? Because so many diseases are self-limited, should we fail to try to relieve the distressing sore throat—the splitting headaches and the thousand and one aches and discomforts that are the chief complaints of sickness? Or—still worse—should we still persist in giving medication so nauseating or depressive that it is purposely omitted?

The wisest woman that I know—who "combines the wisdom and tolerance of an old woman with the spirit of a young girl"—believes in homeopathy, pure and simple From bitter experience she knows that when she is sick and nauseated—and who is not nauseated when sick?—if an "allopath" is called he will, after a careful examination, either do nothing therapeutically, or else, worse still, prescribe medication liable to cause her additional digestive discomfort When she sends for a homeopath he gives her two glasses of water, plus something which, whatever its medicinal properties, certainly does not spoil the water If she were simply told to take small quantities of water at frequent intervals she would neglect it when not thirsty, but when instructed to take a teaspoonful from the first glass on the hour, and from the second ten

minutes later, her interest is stimulated, she regularly obtains the water that her economy demands in the small amounts that her digestive apparatus can care for, and is relieved

But to say that the osteopaths and chiropractors have simply availed themselves of a psychologic fact will not account for the deluge of letters with which the legislators of many of our states are annually flooded—letters from judges, lawyers, ministers and business men—all asking that these cults be given special privileges by legislative mandate without demanding of them the educational qualifications which the profession has erected to protect the public from incompetent medical practitioners What explains this hold-up on the public imagination? The answer is, commercial publicity

Our ethics forbids publicity to the physician, and rightly so To permit a doctor to relate publicly his individual cures would be detrimental to the morals of the community and to the higher interests of the profession—but it would be advantageous to the doctor Effectual commercial advertising was the subject stressed in the early osteopathic colleges by it the chiropractors have obtained all their prominence

In 1911, the osteopaths stated to our legislators that medical men were humbugs, drugs impotent, and surgery rarely necessary Today having acquired, to their credit, a larger point of view, both scientifically and ethically, they advertise less and study more, while the chiropractors now call both the medical men and the osteopaths humbugs and adopt the latest commercial superlatives of publicity

While we must continue to condemn individual advertising, we must not allow our ethics to prevent the proper use of publicity by the profession as a whole We must develop channels to present our point of view and ideals to the public properly and with dignity, thus explaining that our insistence on standardized educational qualifications for all who would practice healing is solely for the protection of the public The interest of the state, as well as of the profession, demands that there be inaugurated a definite plan of medical publicity

In the campaign of 1921, the Medical Society of New Jersey organized politically the whole profession of the state, instructed groups to interview legislators, prepared public hearings and statements, bulletins and literature for the legislators, press, public and profession, to show what the medical profession was fighting for This succeeded in repealing the obnoxious chiropractic law and the enactment of a proper "limited practice" act, and the following year prevented the reelection to the assembly of eight of the fifteen of the opponents of educational standards Owing to lack of proper national organization, all this volunteer intellectual effort and labor—doctor's time,—has not been made available to the profession of other states As the facts and methods of attack on educational standards are practically the same all over the country, this material should be copied, classified and filed, in the educational or legislative council of the American Medical Association, and copies placed at the disposal of legislative or welfare committees of any state, thus avoiding reduplication of effort and helping to consolidate the profession

Skilfully conducted publicity of an injustice, real or imaginary, is always a powerful legislative weapon The "medical trust" cry has uniformly been used to hide a lack of education Legislators often fail to realize that a medical examination may be purely academic It may or may not be a test of fitness to practice, depending on whether or not it is associated with proper experience, both technical and scientific

The osteopaths state to the legislators that the two years of preliminary college education now demanded by our laws is not only unnecessary but was instituted by the profession for the express purpose of limiting the number of students and compelling them to attend certain prescribed colleges In New Jersey there are a few osteopaths who are graduates of schools which are trying to give a fair degree of training in surgery and practice, and who have passed the state board's examination, the vast majority, however, have obtained licenses by registration or endorsement, without examination They complain to our legislators that the state requires them to pass the board's examination, but does not allow them to practice surgery which, with the use of antiseptics, anesthetics and analgesics, is now their object

The legislators' attention is thus adroitly focused on the similar examination but surgical restriction The osteopathic colleges' low admission requirements, and their imperfect laboratory and clinical teaching facilities is thus disguised The latter they would explain by accusing the profession of debarring them from practice in hospitals

If the osteopathic colleges give an adequate medical and surgical training (both technical and scientific), we must not let any formula stand in the way of their proper recognition As yet there is little evidence that they are so doing

Up to the present the chief objection to all the osteopathic bills introduced into the legislature of New Jersey to extend their privileges is that, in spite of their verbiage, they would license groups of osteopaths whose educational qualifications do not in any way equal that required of medical men of similar date Reduced to facts, they all aim to allow osteopaths to practice medicine by a short and easy educational road By their enactment they would permit many incompetents, armed with the state's license, to practice surgery

If we are to continue successfully to combat legislative attacks, we must justly and scientifically reexamine our present educational standards, laws and methods in the light of experience, and, if found defective, inadequate or unjust, they must be revalued and altered to meet changed conditions of public needs, chief among which is the scarcity of physicians in the rural districts and the desirability of further restrictions before a license to practice major surgery is granted

While we must refuse to lower our educational standards, it may be desirable that they be so modified that a man possessing the requisite knowledge and experience, no matter where obtained, may be allowed to practice, as in Massachusetts, or at least to enter a properly equipped medical college to supplement the knowledge he already possesses

At the same time, our requirements as to experience and technical knowledge should be still further elevated The advancement of surgery should make us inquire whether the license to practice major surgery should not be separated somewhat from that of physic, as in England, where a surgical license is only granted subsequently on the completion of an adequate amount of technical experience and knowledge

Again, the profession as a whole must begin to think and act as technical public servants, not simply as individuals The scientific progress of medicine is well known to the public, but it is time for the medical profession to realize that it collectively belongs to the public now, in peace as during the war, that we are a specialized part of the body politic, and, as such, must occupy a commanding place in those matters for which our education, experience and tradition qualify us alone —the public health

When an educated man neglects his duties as a citizen, he commits the greatest public crime possible, except actual treason For years the pulpit has taught that every man should vote Of course, every man should vote, but voting is only a small part of our civic duty

We live in a democracy Democracy is the rule of the majority but the majority is mediocre, consequently it has been said—and with truth—that democracy is the rule of the mediocre Did not the draft astonish us by the extent of physical unfitness, and the high degree of illiteracy among our people?

The members of the medical profession are not mediocre By their years of training, by their ethical standards, by the culture which has become theirs from years of research and thought, they are qualified to understand human needs but in the pursuit of a scientific understanding of disease, in the very wonder and love of medicine they have, as a class, been led away from their larger duties as public citizens Physicians must realize that they alone are qualified to supply to the nation that expert information which it must have

I protest against the indifference of the individual physician and of the profession's organizations It is our duty individually and collectively to speak in a commanding voice to the politicians in all matters that pertain to public health and its corollary, public education, for public education should be guided by the health, mental, physical and emotional, of the individual

Equally important is this service to our country today with the scientific practice of medicine, because public health and education have become great national issues A proper direction of public health will make us a greater nation—its neglect an enfeebled one

We must demand that a physician be in the cabinet of the United States as secretary of a department of public health We, as voters, must see that physicians are present in Congress and the national Senate, that in every state assembly and senate there is a certain proportion of physicians

To this end we must make sacrifices, sacrifices of time and of practice Democracy demands this sacrifice of each physician, as an educated man, if he would that democracy be continued

One hundred years ago Helmholtz was born among a people whose men of learning were content to delegate to a few their political destiny, as long as it was successful Today Germany is in the discard and its scientific men are paying the price not only for other criminality but of their own indifference

In the very nature of our political institutions, the man of prejudice, with but little knowledge or scientific sympathy, must frequently occupy our legislation halls, as shown by the constant efforts to grant the privilege to treat disease without demanding an adequate education Politically, the next few years are destined to be the most important in history They will decide whether the world is to go forward or backward there are movements in both directions More than ever before, democracy demands that the educated man play his part in all public affairs, the medical man must be a leader in public health and educational movements He can no longer afford to lead in the advance of medicine alone

15 Lombardy Street

## THE EXERCISE CARDIAC FUNCTIONAL TEST IN ONE HUNDRED CASES OF HEART DISEASE

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It would seem that a fair judgment of the functional capacity of the heart could be arrived at by observing the response of that organ to exercise, for the physical activity of a healthy person is limited by the ability of his heart to increase its output, that is, to furnish an adequate supply of blood to the working muscles If, then, an organically diseased heart is able to maintain the equilibrium of the circulation under conditions of stress, its functional capacity is normal On the other hand, if such a heart does not respond to exercise by an increase in its working force, an efficient circulation is not maintained, hence, its functional capacity may be looked on as impaired

The working force of the heart can be readily measured by a determination of the blood pressure This fact has been seized on and made the basis of the exercise cardiac functional test The test is performed by requiring the subject to undergo some sort of vigorous exercise To quote Brittingham and White,[1] the "systolic pressure is then taken as soon as possible, usually within twenty-five seconds, and it is followed at from ten to fifteen second intervals until it is definitely dropping, then at thirty second intervals until it reaches within 6 mm of the preexercise level of mercury There is normally a sharp rise in systolic blood pressure within the first forty seconds after work, followed by a fall to within 6 mm of normal within two minutes If a healthy person continues to work until he has nearly reached his limit of capacity, the maximum systolic blood pressure will not be obtained until from sixty to eighty seconds after stopping work instead of the normal forty seconds, and the preexercise level will not be reached until the end of from three to six minutes instead of two Such a curve is said to have a 'delayed rise' or 'delayed summit' and 'prolonged fall'" One would expect an organically diseased heart with impaired functional capacity to respond to work in the same manner that a normal heart responds to excessive exercise, that is, with a "delayed systolic rise" in the blood pressure or a "prolonged fall"

If this test could be shown to be reliable, it would be of inestimable service to one who attempts to make a prognosis of a case of chronic heart disease in which there are none of the early symptoms of failing compensation, such as precordial distress, dyspnea on exertion, or edema of the ankles

In applying this test, I have used a body-bending exercise repeated twenty times in forty-five seconds, and have taken the blood pressure at the intervals suggested by Brittingham and White I have observed not only the systolic, but also the diastolic blood pressure

1 Brittingham H H, and White P D Cardiac Functional Tests, J A M A 79 1901 (Dec 2) 1922

variations and the changes in pulse rate before and after exercise All of my subjects were males, ranging in age from 17 to 53 years Among 100 men, there were sixty-six cases of mitral regurgitation, eight of mitral stenosis, fourteen of aortic regurgitation and twelve of combined valvular lesions All were free from any evidence of heart failure at the time of the examination

The results were at variance with those of the proponents of the test [2] The blood pressure reaction of all of the subjects with mitral regurgitation was normal, that is, there was neither a delayed rise nor a prolonged fall in the systolic blood pressures Moreover, the diastolic pressures during the test did not vary more than 4 mm of mercury from the preexercise levels, in spite of the fact that seven men gave a history of decompensation at from two to five years prior to my examination On the other hand, the time required for the pulse to return to the preexercise rate was definitely prolonged in 53 per cent of the cases Brady [3] believes that a pulse rate remaining more rapid than normal for over three minutes after fifteen deep knee flexions should arouse suspicion of the cardiovascular integrity In thirty-five of my series of sixty-six cases of mitral regurgitation, the pulse did not return, after exercise, to the rate at rest for from four to fifteen minutes

Two of the eight patients with mitral stenosis gave abnormal blood pressure reactions to exercise, one man, aged 48, showed a delayed rise in the systolic pressure, and one man, aged 42, reacted by a prolonged fall There was no change in the diastolic pressures In four instances, the pulse required more than four minutes to return to the initial rate

Of the fourteen patients with aortic regurgitation, only one, a man of 53, gave a delayed rise in the systolic blood pressure A tardy return of the pulse to normal after exercise was observed in half of the subjects

The effect of exercise on the twelve men handicapped by combined valvular lesions was interesting In every case the pulse rate remained more rapid than normal for more than four minutes following the twenty body-bending exercises The average time required for the pulse to return to the preexercise level was eight minutes In no instance was there a prolonged rise or a delayed fall in the systolic blood pressure

### COMMENT

Since only 3 per cent of my series of cases with organic heart disease reacted to exercise by the so-called abnormal blood pressure response, this form of functional test can have little prognostic value The blood pressure variations can be more satisfactorily explained as vasomotor rather than myocardial phenomena I have observed a prolonged systolic fall in blood pressure following exercise in a number of persons with irritable heart, and in patients with whom asthenia was a prominent feature In every instance, the interpretation rested on a vasomotor basis

The tardy return of the pulse rate to the preexercise level is, however, constant enough in organic heart disease to entitle it to some consideration as a functional test of cardiac efficiency

30 North Michigan Avenue

2 Barringer T B Jr Exercise Tolerance in Heart Disease J A M A 79 2205 (Dec 30) 1922

3 Brady William The Anamnesis in Cardiovascular Disease J A M A 70 1449 (May 18) 1918.

# THE PRINCIPLES INVOLVED IN THE TREATMENT OF OBESITY *

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To be thin is fashionable Likewise, if not carried too far, it is conducive to comfort and longevity

It is not my purpose here to discuss the fatty dystrophies, such, for instance, as are believed to result from disease of the endocrine organs, but rather to confine myself to the treatment of ordinary obesity of moderate degree, the type which is best exemplified by that increase in weight which comes with the ease and contentment of middle age It is this type which we encounter most often

Does the metabolism of the obese patient proceed along lines identical with that of the normal person? Probably not Yet, in the well known experiment of Rubner [1] on two brothers, one of them fat and the other thin, it was definitely shown that the basal metabolic rate, per square meter of body surface, was the same in the two We must conclude, therefore, that if there is a difference it is in the pathway rather than in the amount of metabolic activity Recent experiments by Strouse [2] suggest that the metabolism of the fat person does not react in the usual manner to the several foodstuffs, that, for instance, such a person tends to store rather than burn his fats, and that he does not experience from protein its usual specific dynamic action It seems probable, however, that this applies to the excessively obese—to those who exemplify the so-called dystrophies—rather than to the moderately fat persons about whom I am speaking

The obese person exercises too little, eats too much, or both To cure him, the endeavor should be to balance the two main factors—metabolic activity and food intake—by stimulating the one and curtailing the other

Regarding the first, the stimulation of metabolism, there are two effective physical means for accomplishing this end First and foremost comes exercise Exercise hastens materially the metabolic rate and leads to the increased oxidation of ingested food, or, if food is not available, then of body fat The exercise should be of the right sort and should never be carried to the point of exhaustion It should be mild and long continued rather than violent It should be regular, not spasmodic, and if possible the patient should find in it interest and diversion Exercise is the chief factor on which we must depend first and always for the stimulation of metabolism and for the oxidation of surplus fat

The other useful physical stimulus is the cold bath A cold shower or plunge greatly increases the metabolic rate, which increase persists for a long time afterward Because its value is not fully appreciated and because the life of ease to which the fat person is often accustomed does not prepare him for the momentary punishment entailed in the cold bath, this procedure has been neglected It has been said that patients who are more than 45 years of age do not stand this well, but if the heart is intact, the arteries not too sclerotic, and the blood pressure not too high, I doubt whether the cold bath does as much harm as continued obesity An exception should be made, perhaps, of those people who genuinely do not react, and who feel chilly for several

* Read before the Section on Practice of Medicine at the Seventy-Fifth Annual Session of the American Medical Association Chicago June 1924

1 Rubner quoted by Lusk Science of Nutrition Ed 3 1921 p 256

2 Strouse Solomon Communication to the Association of American Physicians Atlantic City May 6 1924

hours after the bath, but for the obese patient who reacts promptly, however disagreeable the shock, the cold morning bath is to be recommended

Turning to the second chief factor, the curtailment of food—it should be emphasized that this must be accomplished along rational lines, with due regard for known metabolic laws The cure will be more effective and harm will be avoided, if these laws are observed

The first dietary consideration should be the total caloric intake This should be relatively small, the exact figure depending on the weight desired and the rapidity of its contemplated attainment The patient's ideal weight in kilograms should be estimated, and he should then be permitted as a rule an amount of food that will yield from 18 to 22 calories per kilogram

The next consideration in the arrangement of this diet should be the preservation of nitrogen equilibrium This is of paramount importance The object here should be to force the patient to burn his own fat, and this without loss of body protein This is not difficult to accomplish, for nitrogen equilibrium and carbon balance do not necessarily go hand in hand the one can be preserved without the other Lusk [3] has demonstrated that an animal, while conserving body protein, can be made to lose weight at the expense of body fat, provided the diet contains sufficient protein and is of low caloric value Therefore, the first dietary principle of the treatment should be a menu which in caloric value is materially below the patient's needs, and yet which has a protein content abundantly equal to these needs

This liberal quota of protein is recommended chiefly for the preservation of nitrogen equilibrium, but also because the specific dynamic action of this foodstuff is an effective aid toward securing increased metabolic activity From 1 5 to 2 gm of protein per kilogram of calculated ideal body weight can be regarded in the reduction cure as an appropriate amount

I am aware of the work of Newberg and others which would indicate that an excessive protein intake is harmful to the kidneys, but the amount recommended here, liberal though it is, cannot be called excessive No harm, under ordinary circumstances, can come from protein taken in this amount

In addition to the amount of protein permitted, some consideration should be given also to its biologic value In order to throw the smallest burden on the kidney and to preserve nitrogen balance in the most economical manner, the patient should choose proteins of high biologic value These are proteins which supply to the organism in full measure all the aminoacids necessary to the building of the animal's own tissues Chief among them are the proteins of meat, eggs and milk

Turning to the carbohydrate quota of the diet, this foodstuff serves two important purposes First, it is the chief source of energy for the maintenance of body temperature and, in overwhelming measure, for the production of work and second, it is a most efficient protein sparer To preserve nitrogen balance at an economical level, it has been shown that at least 50 per cent of the energy contained in the food should come from carbohydrate Fat will not serve the same purpose It is clear, therefore, that the effort of many obese persons to avoid all starchy foods and to eschew all sweets is without reason After computing the caloric value of the protein allowance, there should be added to the diet an amount of carbohydrate sufficient to bring its value almost or fully up to the desired total caloric intake

The precaution should be taken to see that this carbohydrate portion of the diet includes sufficient of the vitamin-carrying foods, such as fruits, tomatoes and the leafy portion of green vegetables The need for vitamins in the reduction cure is sometimes forgotten

With fats, the circumstances are different Aside from considerations of appetite, this foodstuff finds a prominent place in the usual meal because of its high caloric value For the obese person, however, this consideration no longer holds good, and fat is not a necessary part of the diet Fat is the one foodstuff that in obesity we can afford to reduce to a minimum or, still better, omit altogether

The other food factor to be considered is water It can be stated with assurance that obesity is not increased by the excessive drinking of water, and that it is not relieved by abstention from water In fact, the reverse may be true, for Hawk [4] has shown that water, in some small measure, acts as a stimulus to metabolism, which leads one to conclude that the liberal drinking of water is to be recommended There is, however, one objection the excessive drinking of water often induces the patient to eat more food If this error is guarded against, an abundance of water should be advised

There is yet another aspect of the diet which is seldom considered, but which is of extreme importance It is the extent to which the food gives a sense of well-being and satisfaction, its satiety value, so called Other things being equal, the patient should be allowed to eat the food which in largest measure allays his hunger and which gives him the greatest degree of satisfaction Meat has the highest satiety value of all foods, it "sticks to the ribs" longest Therefore, the protein that the patient receives should be largely in the form of meat Since hard boiled eggs have a higher satiety value than soft boiled eggs, although the two are obviously of equal caloric value, the former should be preferred Likewise, potatoes are preferable to bread, because in isodynamic quantities the former have a higher satiety value

In this connection is seen the importance of sweets A dessert taken at the end of the meal, as has been shown by Kestner,[5] will enhance greatly its satiety value Not only are simple sweets, when credited with their proper caloric value, of no harm, but when taken at the proper time they will permit the patient to rest satisfied with a smaller quantity of food If we would hold the patient down to a minimal intake and at the same time satisfy him, we should add always to the heavy meal a little dessert

Short fasts are sometimes advisable What are their influence on the metabolism of obesity? Starvation, even in the most obese, necessarily causes some loss of body protein, but what we fear most is that the abnormal destruction at this time of excessive amounts of fat may produce a surplus of fatty acids and lead to the condition known as acidosis Abderhalden and Lampe [6] have shown, however, that repeated short fasts increase progressively the ability of the dog to split fatty acids, and Folin and Denis [7] have observed something similar in man The last named investigators offer the assurance that repeated fasting in the obese is safe and effective, provided the extent of the acidosis is carefully watched

Finally, a warning should be uttered against rapid reduction in weight It imposes unusual hardship on

3 Lusk Science of Nutrition, Ed 3, 1921, p 154

4 Hawk Practical Physiological Chemistry, Ed 6, Philadelphia, P Blakiston's Son & Co p 598
5 Kestner Deutsch med Wchnschr **15** 285 1919
6 Abderhalden and Lampe Ztschr f physiol Chem **78** 398, 1912
7 Folin and Denis J Biol Chem **21** 183, 1915

the patient, and in rare instances it may prove disastrous A loss of from 3 to 6 pounds (1 4 to 2 7 kg) a month, when continued sufficiently long, will obviously bring weight to any desired figure

### CONCLUSION

It is not necessary to resort to bizarre, freak diets in order to accomplish a reduction in weight Nor, in the absence of definite thyroid deficiency, is the administration of thyroid extract or similar endocrine therapy necessary Rational measures that follow known physiologic laws, consistently observed, are safer and, in the end, more effective

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## VISUAL DISTURBANCES PRODUCED BY TRYPARSAMIDE*

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The toxic phenomena observed in experimental animals following the administration of certain organic pentavalent arsenical compounds, such as atoxyl, arsacetin and tryparsamide, are largely centered in the central nervous system[1] After large doses, animals develop tremors, incoordination of movements and in some cases, clonic spasms When atoxyl and arsacetin were first employed for the treatment of syphilis and trypanosomiasis in man, similar neurotoxic effects, especially characterized by damage to the optic nerve, were observed A number of patients developed amblyopia and subsequent atrophy of the optic nerves following their use Because the potential therapeutic value of these drugs was not commensurate with the gravity of this toxic manifestation, they were abandoned as syphilotherapeutic agents

Tryparsamide, applied to the treatment of trypanosomiasis in man by Pearce,[2] also showed a tendency to produce visual disturbances In her series of seventy-seven patients with trypanosomiasis, nine developed visual impairment In three of these, there was some degree of permanent damage, while six patients recovered completely When treatment was begun before the central nervous system had been invaded, there were no untoward visual phenomena It was Pearce's impression that the chief factors concerned in this toxic action of the drug were dosage, the interval between the treatments, and the presence of advanced nervous system disease

The first systematic study of tryparsamide in the treatment of syphilis was undertaken by Lorenz, Loevenhart and their co-workers[3] with special reference to neurosyphilis, and in this clinic[4] Unlike atoxyl and arsacetin the results of its use in neurosyphilis are so encouraging as to justify some risk of ocular damage, provided the risk can be shown to be relatively small, the use of the drug is limited to that class of patients in which potential therapeutic gain is commensurate with the risk, and some method of minimizing the danger is found

In order to elaborate these points and to study the characteristics of visual impairment caused by tryparsamide we have reviewed the series of patients treated in this clinic Two hundred and forty-one patients have received more than 3,000 injections of tryparsamide The drug is given intravenously, in courses of from eight to sixteen doses, the interval between doses being not less than one week No other drug is used during the administration of tryparsamide, though mercury or arsphenamin is employed as interim treatment between the courses The dose is usually between 30 and 50 mg per kilogram (average adult dose 3 gm)

The visual disturbances fall into two general classes, which we have designated as subjective and objective reactions The subjective type of reaction is without definite objective ocular findings or visual field changes when examined at the height of the reaction or at any other time The type classed as objective constantly shows changes in the visual fields, and occasionally diminution of vision

The gross incidence of untoward ocular symptoms in our 241 cases is 17 8 per cent Twenty-four cases, or 10 2 per cent, fall in the subjective group, thirteen, or 5 5 per cent, in the group with objective ocular damage, and in five, or 2 1 per cent, the influence of tryparsamide is questionable The questionable group includes three patients with some subjective complaints, in whom the mental condition was such as to make objective examination impossible, and two patients in whom incipient optic atrophy was accidentally discovered after a long series of tryparsamide injections It was impossible to determine whether this optic atrophy was due to neurosyphilis or to tryparsamide therapy In the subsequent discussion, this small questionable group will be disregarded

### SUBJECTIVE REACTIONS

The subjective type of reaction strongly suggests hyperesthesia of the retina as the underlying cause The visual disturbances complained of by patients in this group are remarkably similar From six to twenty-four hours after the injection of tryparsamide, a "dazzling" sensation appears, at times associated with a "tremor in the air" The sensation is constantly described as exactly similar to that produced by looking at snow under intense sunlight In dim illuminations, these symptoms disappear or are greatly diminished, though in strong light they are increased Their duration is inconstant, ranging from one or two days to two weeks

From the ophthalmologic standpoint, there is no external change in the eyes and no diminution of vision Muscular balance and accommodation are not affected The media and fundi show no essential change but in a few instances, a low grade hyperemia of the fundus is observed, without, however, any blurring of the neuroretinal margins or alteration in the physiologic cups This hyperemia, if present, is always rather indefinite, does not appear to be of long duration, and often disappears within twenty-four hours The visual fields and blind spots are identical with those recorded before

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* This investigation has been partially supported by a grant from the Rockefeller Institute for Medical Research

* From the ophthalmologic division of the surgical clinic and the syphilis division of the medical clinic the Johns Hopkins Hospital

1 Brown W H and Pearce Louise Chemotherapy of Trypanosome and Spirochete Infections, I The Toxic Action of N Phenylglycineamide p Arsonic Acid J Exper Med 30 417 (Nov) 1919 Fourneau E Navarro-Martin A and M and Mme Trefouel Les derives de l acide phenyl arsinique (arsenic pentavalent) dans le traitement des trypanosomases et des spirilloses experimentales Ann de l Inst Pasteur 37 551 (June) 1923

2 Pearce Louise Studies on the Treatment of Human Trypanosomiasis with Tryparsamide J Exper Med (supplement) 34 1 (Dec) 1921

3 Lorenz W F Loevenhart A S Bleckwenn W J and Hodges F J The Therapeutic Use of Tryparsamide in Neurosyphilis, J A M A 80 1497 (May 26) 1923

4 Moore J E Robinson H M and Kendel Albert Tryparsamide in the Treatment of Syphilis J A M A 82 525 (Feb 16) 1924

treatment There are no scotomas, either absolute or relative Case 1 illustrates typically the general type of reaction which we class as subjective

CASE 1—*Cerebrospinal Syphilis Blurring of vision after fourth tryparsamide injection No objective changes in eyes Subsequent therapy without trouble*

A white man, aged 51, with physical and serologic evidence of diffuse cerebrospinal syphilis, the clinical picture simulating multiple sclerosis, was treated with tryparsamide, the first injection being given, Oct 12, 1923

On ophthalmologic examination before treatment, Oct 9, 1923, the eyes externally were normal, the pupillary reactions were slightly sluggish but all were present Extra-ocular movements were normal The tension was normal The corrected vision (low grade hyperopia) was 20/15 in each eye Presbyopia was normal for the age The muscular balance was normal The media were clear The right disk appeared slightly pale, the physiologic cup and neuroretinal borders were normal The left disk appeared normal In the peripheral fundus of the left eye were numerous punctate, atrophic areas of an old disseminated choroiditis The visual fields were normal for form and color The blind spots were normal in size There were no scotomas

November 15, the patient had received five weekly injections of tryparsamide, the average dose being 1 5 gm (20 mg per kilogram) The last injection of 1 gm was given, November

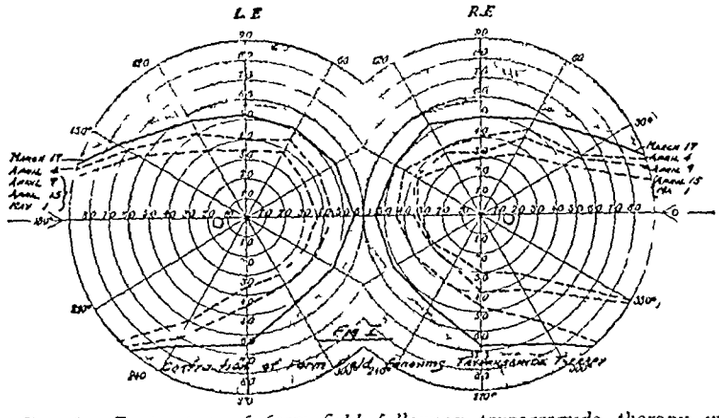


FIG 1—Contraction of form field following tryparsamide therapy in Case 2

8 On awaking the following morning, the patient noticed some dazzling of vision, and objects seemed slightly blurred until he looked at them intently, when he was sure he saw as well as formerly There was no pain or other disturbance

The examination of the eyes showed no change over the previous note The corrected vision was still 20/15 in each eye, the fundi were unchanged The visual fields were quite normal The blind spots were normal in size No scotomas could be demonstrated

In the absence of objective findings indicating visual impairment, tryparsamide therapy was continued To date, fourteen more injections, with an average dose of 31 mg per kilogram, have been given, and there have been no further visual disturbances of any kind

The eyes were examined last, April 4, 1924 The vision was still 20/15 each with correction The fundi were unchanged The visual fields were in every respect normal

## OBJECTIVE REACTIONS

In the type of reaction we have classed as objective, the same symptoms of dazzling vision are present These symptoms are usually but not necessarily more intense than in the subjective group, and are accompanied by other changes which we believe to indicate definite organic damage to the eyes The symptoms appear, as in the subjective group, about fifteen hours after the treatment with tryparsamide, and are usually accompanied by a slight dimness or veiling of vision In this more intense type of reaction patients constantly stated that objects in a dim illumination appeared gray

On ophthalmologic examination, nothing is found externally, other than had been previously noted Vision, however, frequently shows a slight but definite diminution Muscular balance and amplitude of accommodation are unchanged The fundi are usually normal, although occasionally the same hyperemia of the nerve head and retina, already referred to, is observed The visual fields show a noteworthy alteration, consisting of concentric contraction of the form fields, affecting particularly the nasal, upper and lower fields, the temporal field being involved last or not at all The color fields remain unaffected We have never observed changes in the blind spots or scotomas of any type which could be attributed to the action of tryparsamide

In a few of the more severe cases, visual failure and field contraction slowly increased to a maximum within three weeks, in every instance except one, however, stopping well short of blindness The reaction progressed in this one patient, Case 4, on whom our records are not complete, to practically complete blindness, and, within a period of two months, there appeared advanced primary atrophy of the optic nerves In all other patients in this group, the process either became stationary or improvement was noted, and some degree of useful vision was always preserved The following cases illustrate various degrees of reaction with definite organic damage to the nervous tissues of the eye

CASE 2—*Asymptomatic neurosyphilis Marked dazzling vision after third tryparsamide injection Definite visual field changes*

A white man, aged 32, with a functional psychosis, was discovered to have positive serologic changes in the spinal fluid Tryparsamide therapy was begun, March 19, 1924

On ophthalmologic examination before treatment, March 17, there was a slight anisocoria, the right pupil being larger than the left The pupillary reactions to light were almost imperceptible The reactions to accommodation were normally present The tension was normal The extra-ocular movements were all normal The corrected vision (hyperopic astigmatism) was 20/15 in each eye The accommodation was normal for the age The muscular balance was normal The media were clear, and the fundi appeared quite normal throughout The disks were of good color, neuroretinal borders and physiologic cups were normally distinct The visual fields were normal for form and color, the blind spots were normal in size There were no scotomas

April 4, the patient had received three weekly injections of tryparsamide, the last, of 3 gm, April 2 The average dose was 46 mg per kilogram of body weight On the morning of April 3, fifteen hours after the last injection, the patient had an attack of dazzling, increased by light, and described as a "tremor in the air" By night, objects appeared gray, as though there were mildew on them The patient did not think there had been any actual visual failure

Examination showed the anisocoria and almost absent pupillary reactions before noted Otherwise the eyes were entirely negative externally The corrected vision was 20/15 in each eye The accommodation and the muscles were as before noted The media were clear, and the fundi appeared entirely normal The visual fields showed above, below and nasally, a contraction of approximately 15 degrees for form

The color fields were unchanged The central fields were normal, the blind spots were of normal size, and no scotomas were found It was believed that some organic damage had taken place, and the tryparsamide therapy was discontinued

April 9, there were no external or fundus changes, though the visual fields showed a further slight contraction The symptoms of dazzling still continued

April 15, the visual symptoms were still present, though of less degree The visual fields were essentially the same as at the last examination

May 1, the symptoms had entirely disappeared The eyes showed no change to external or ophthalmoscopic examination

The corrected vision was 20/15 in each eye The visual fields showed exactly the same condition before noted The process appeared stationary

CASE 3—*General paralysis Marked visual disturbance and permanent constriction of visual fields after tryparsamide*

A white man, aged 35, had been treated elsewhere for syphilis for three years In February, 1924, the physical, mental and serologic changes of general paralysis were discovered Tryparsamide therapy was instituted, Feb 9, 1924

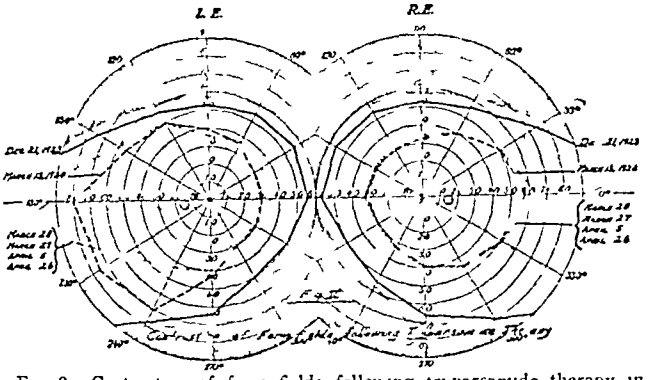

FIG 2—Contraction of form fields following tryparsamide therapy in Case 3

On ophthalmologic examination before treatment, Dec. 21, 1923, the eyes were externally negative The tension, the pupillary reactions, and the extra-ocular movements were all normal The corrected vision (low grade of myopic astigmatism) was 20/15 in each eye The media were clear, and the fundi were entirely normal The visual fields were normal for form and color The blind spots were normal in size There were no demonstrable scotomas

March 12, 1924, the patient had four injections of tryparsamide. The morning after the first injection of 2 gm, he complained of slight blurring of vision on reading In spite of this, February 16, an injection of 2 5 gm, and February 25, one of 3 gm were administered After each of these, the blurring and dazzling of vision were slightly intensified The last injection of 2 gm was given, March 5 The average dose was 39 mg per kilogram About fifteen hours after the last treatment, the patient complained of "snow blindness" and definitely increased blurring in vision, especially noticeable in dim lights

The eyes externally were entirely negative The corrected vision was 20/20 in the right eye, and 20/30 plus in the left eye The accommodation and the muscles were unaffected The media were clear The fundi were definitely hyperemic, especially the left nerve head, but showed no other abnormalities The visual fields showed a sharp contraction, varying from 10 to 30 degrees, more marked nasally, above and below The central fields were normal, the blind spots were of normal size There were no demonstrable scotomas The color fields were unchanged

It was felt that definite organic damage had probably occurred, and the tryparsamide therapy was discontinued

March 20, the symptoms of dazzling and dimness of vision had cleared considerably The eyes were negative externally The corrected vision had risen to 20/15 in each eye The media were clear and the fundi appeared normal There was no hyperemia The visual fields were unchanged in the right eye In the left eye, there had been a slight extension of the field temporally The central fields were still entirely normal

March 27, the visual symptoms had entirely cleared, but the patient was quite conscious of the limitation of the visual fields The examination of the eyes was as last noted There had been no further change in the visual fields

April 5 the condition appeared entirely stationary The vision remained 20/15 in each eye The media and the fundi were normal The visual fields showed the same contraction

April 26, after injections of tryparsamide on the 12th and the 19th, there were no subjective reaction in the eyes Examination showed exactly the same picture as noted on the last examination There had been no further change in the visual fields The patient was conscious of the field limitation, but was quite able to work at his occupation requiring accurate central vision Tryparsamide therapy was permanently discontinued

It should be noted in this instance that, had the warning provided by the subjective visual disturbances after the first few injections prompted earlier ophthalmologic study, permanent visual damage of this extent might have been avoided

CASE 4—*General paralytic neurosyphilis Complete blindness after tryparsamide*

A white man, aged 42, suddenly developed a grandiose general paralytic psychosis after a single combined intravenous and intraspinal treatment of arsphenamin, given, May 11-12, 1923 For this reason tryparsamide therapy was instituted, May 19 His eyes had not been previously examined by an ophthalmologist, but visual acuity was subjectively normal, and the fundi examined, March 22, 1923, by an eminent internist, and, May 2, by one of us (J E M), were considered to be normal There was at least no outspoken evidence of pre-existing optic atrophy

Between May 19 and July 7, he was given seven injections of tryparsamide, the total dose being 29 gm, and the average dose 58 mg per kilogram After each injection of the drug, he was carefully questioned as to subjective visual disturbances Owing to his euphoric, expansive grandiose mental condition his invariable reply was that he could see perfectly well July 7, however, it was noted that he was having difficulty in finding his way about a slightly darkened room, especially on coming into it from bright sunlight An ophthalmologic examination was therefore made, July 18 It must be remembered that there was never any complaint of subjective visual impairment

The ophthalmologic examination showed slight anisocoria, the right pupil being a shade larger than the left The pupillary reactions were very feeble, the right direct light reaction being stronger than the left The consensual reaction was doubtful The convergence reaction could not be determined The vision with both eyes was not over 10/200 Lack of cooperation due to the confused and grandiose mental condition made it impossible to test the individual eyes The media were clear Both disks showed a picture of well advanced primary atrophy There was a small patch of atrophic choroiditis near the right fovea, otherwise the peripheral fundi appeared normal

TABLE 1—*Time of Occurrence of Ocular Disturbances*

| Number of Dose After Which Disturbance Began | Subjective | Objective | Total | Total Number of Patients Receiving This Many Injections of the Drug |
|---|---|---|---|---|
| 1 | | 1 | 1 | |
| 2 | 2 | 4 | 6 | |
| 3 | 5 | 4 | 9 | |
| 4 | 3 | 2 | 5 | |
| 5 | 4 | 3 | 7 | |
| 6 | 1 | | 1 | |
| 7 | | | | |
| 8 | 1 | | 1 | |
| 9 | | | | |
| 10 | 2 | | 2 | |
| 1-5 | 14 | 14 | 28 | 241 |
| 6-10 | 3 | | 5 | 173 |
| 11-15 | | | | 113 |
| 16-20 | 2 | | 2 | 75 |
| 21-25 | | | | 47 |
| 26-30 | | | | 23 |
| 31-35 | | | | 15 |
| 35+ | | | | 11 |

September 9, there was a faint pupillary reaction in each eye, slight anisocoria, and advanced primary atrophy of both optic nerves The patient appeared entirely blind

Since that date the patient has been repeatedly examined May 8 1924 he had no demonstrable vision, and presented the picture of advanced primary atrophy of the optic nerves

In this instance, it is impossible to determine when the damage to the optic nerve took place The patient was not in a mental condition to give reliable informa-

tion as to the state of his vision Had it been possible to detect early signs of visual impairment, the severe injury might have been avoided

Instead of the gradual course of increasing field constriction, which, if it progresses far enough, leads to ultimate visual failure, visual damage from tryparsamide may assume a more acute form We have seen two patients, and have information of a third, in whom almost complete loss of sight suddenly developed

TABLE 2—*Relation of Ocular Disturbances to Average Dose in Milligrams Per Kilogram of Body Weight*

| Average Dose Mg per Kg | Total Patients | Number Developing Ocular Disturbances | Per Cent of Incidence | Ocular Disturbance: Subjective Cases | Subjective % | Objective Cases | Objective % | Questionable Cases | Questionable % |
|---|---|---|---|---|---|---|---|---|---|
| 11 to 20 | 17 | 5 | 29 4 | 2 | 11 7 | 2 | 11 7 | 1 | 5 8 |
| 21 to 30 | 44 | 9 | 20 4 | 4 | 9 0 | 2 | 4 5 | 3 | 6 8 |
| 31 to 40 | 73 | 14 | 19 1 | 8 | 10 9 | 5 | 6 8 | 1 | 1 3 |
| 41 to 50 | 63 | 8 | 12 7 | 6 | 9 5 | 2 | 3 1 | | |
| 51 to 60 | 23 | 4 | 17 4 | 1 | 4 3 | 3 | 13 0 | | |
| 61 to 70 | 5 | | | | | | | | |
| 71 to 83 | 2 | | | | | | | | |

within from one to four days after one or several injections of the drug In each of these instances, however, the amblyopia gradually cleared up in from two to four weeks, leaving practically normal vision One of these patients, a youth with lymphosarcoma, became unable to recognize large objects, though light perception was retained, within forty-eight hours after a single injection of 1 gm Four days later, however, he was able to count fingers, and at the end of three weeks his vision was apparently normal A second patient with general paralysis developed complete blindness two days after the third injection of the drug (average dose 56 mg per kilogram) This amblyopia persisted for two weeks, when he regained light perception A week later, he was able to recognize individuals, and improvement has continued until at present, four months after the accident, he has regained useful vision The principal remaining defect consists of inability to see well when he moves from sunlight into shadows, or vice versa Unfortunately, our records of these patients are incomplete, and we are unable to present data as to visual acuity and visual fields before or after treatment

## ANALYSIS OF FACTORS BEARING ON VISUAL IMPAIRMENT

The principal field of usefulness for tryparsamide is in the treatment of neurosyphilis, which provides the majority of the cases under consideration in this paper Before proceeding with an analysis of the factors surrounding the untoward visual effects of the drug, it must be noted that optic atrophy is prone to occur in untreated neurosyphilis, or in spite of treatment, especially in general paralysis, taboparalysis and tabes The incidence and severity of optic injury following the use of tryparsamide are, therefore, to be considered from the point of view of the incidence and severity of such lesions in patients untreated, or treated by other methods

It is a point of importance that 80 per cent of all visual reactions have occurred, as shown in Table 1, by the fifth dose of the drug, and 94 per cent by the tenth dose If a patient can be given as many as five doses of tryparsamide without visual disturbance, an indefinite amount of the drug may usually be administered This increased liability to reaction early in the course of treatment necessitates careful surveillance

Much to our surprise, there seems to be no direct relationship between the amount of the drug given and the incidence of visual disturbances Our experience on this point is summed up in Table 2 Within certain limits, visual disturbances seem as likely to appear after small doses, expressed in terms of milligrams per kilogram of body weight, as after the largest doses that we have administered Indeed, in our cases there is apparently an increased liability to trouble from small doses, though the series is too small to provide accurate data At any rate, objective ocular damage may result from a small dose of the drug

In general, those patients who develop a reaction of the subjective group, without objective ophthalmologic changes, may be given more tryparsamide after subsidence of the original reaction This point is illustrated by the cases detailed in Table 3 Ten such examples are given Seven of these patients were able, after the occurrence of a subjective reaction, to take a larger dosage, expressed in terms of the average dose in milligrams per kilogram of body weight, than that which had caused the original reaction

In the first paper on tryparsamide published from this clinic,[4] the statement was made that "we have not seen an instance of visual disturbance in early or late syphilis without involvement of the nervous system" In Table 4, we present a summary of the incidence of untoward visual accidents in relation to the various types of disease treated Though the majority of reactions occur in patients with neurosyphilis, we have now observed six instances of ocular damage in patients without neurosyphilis Three of these were late syphilitics with no clinical or serologic evidence of invasion of the nervous system Two patients, both nonsyphilitic, with postencephalitic parkinsonian syndromes, developed mild subjective reactions, and a nonsyphilitic boy with lymphosarcoma developed a transitory high degree of visual impairment In the neurosyphilitic group, general paralytics and tabetics

TABLE 3—*Amount of Drug Producing Subjective Visual Disturbance, and Course Under Subsequent Treatment, in Individual Cases* *

| Subjective Disturbance Occurred After: Number of Dose | Total Dose Given up to This Point, Gm | Average Dose Mg per Kg | Subsequent Treatment with Tryparsamide: Doses | Total Dose, Gm | Average Dose, Mg per Kg | Ocular Disturbance |
|---|---|---|---|---|---|---|
| 4 | 6 5 | 21 | 12 | 27 5 | 30 | None |
| 4 | 11 0 | 39 | 8 | 24 0 | 42 | None |
| 20 | 31 5 | 27 | 14 | 40 0 | 50 | None |
| 6 | 11 5 | 27 | 5 | 10 0 | 28 | None |
| 5 | 10 0 | 28 | 22 | 58 0 | 37 | None |
| 10 | 15 0 | 23 | 14 | 40 5 | 46 | None |
| 15 | 27 0 | 30 | 4 | 12 0 | 50 | None |
| 3 | 5 0 | 28 | 7 | 7 0 | 17 | None |
| 5 | 16 0 | 53 | 7 | 25 0 | 59 | None |
| 10 | 30 0 | 45 | 9 | 27 0 | 45 | None |

* In addition, four patients with subjective complaints of visual difficulty but not objective ophthalmologic changes were treated continuously, in spite of the visual disturbance This did not increase, and disappeared when the drug was finally stopped

seem especially prone to ocular reactions Of eighty-three general paralytics and tabetics, nineteen, or 22 8 per cent (excluding questionable reactions), developed some degree of visual impairment, while of eighty-five patients with other types of neurosyphilis, only thirteen, or 15 2 per cent, developed trouble This is in keeping with the incidence of visual impairment in untreated neurosyphilitic patients

That nervous system disease in general is a predisposing factor to visual disturbances is emphasized by a

rearrangement of these data, as shown in Table 5 In sixty-five patients, in whom central nervous system disease could be excluded, the incidence of untoward visual phenomena was but 6 1 per cent, while in neurosyphilis and postencephalitic parkinsonian disease, these accidents occurred in 21 1 per cent of 180 cases

The fact that several early ocular reactions arose in patients with preexisting syphilitic eye disease led us, in our first paper, to consider syphilitic involvement of

TABLE 4—*Incidence of Ocular Disturbances in Relation to Type of Disease*

| Type of Disease | Number of Patients Treated | Total Number of Cases with Untoward Ocular Symptoms | Per Cent of Incidence | Ocular Disturbance: Subjective Cases | Subjective Per Cent | Objective Cases | Objective Per Cent | Questionable Cases | Questionable Per Cent |
|---|---|---|---|---|---|---|---|---|---|
| Early syphilis | 10 | | | | | | | | |
| Latent syphilis without central nervous system involvement | 45 | 3 | 6 6 | 2 | 4 4 | 1 | 2 2 | | |
| Neurosyphilis | | | | | | | | | |
| General paralysis | 38 | 8 | 21 0 | 2 | 5 2 | 5 | 13 1 | 1 | 2 6 |
| Taboparalysis | 4 | 1 | 25 0 | | | | | 1 | 25 0 |
| Tabes | 41 | 13 | 31 7 | 9 | 21 9 | 3 | 7 2 | 1 | 2 4 |
| Meningovascular | 43 | 10 | 23 2 | 6 | 13 9 | 3 | 6 9 | 1 | 2 3 |
| Vascular | 5 | | | | | | | | |
| Asymptomatic, late | 27 | 3 | 11 1 | 3 | 11 1 | | | | |
| Early neurosyphilis | 10 | 1 | 10 0 | 1 | 10 0 | | | | |
| Complete optic atrophy | 4 | | | | | | | | |
| Nonsyphilitic | 12 | 3 | 25 0 | 1 | 8 3 | 1 | 8 3 | 1 | 8 3 |
| | 235* | 42 | 17 8 | 24 | 10 2 | 13 | 5 5 | 5 | 2 1 |

* Excluding patients completely blind before treatment

the optic nerve or retina as an absolute contraindication to the use of tryparsamide In the light of additional experience, this is, we believe, unnecessary caution In our series, there are 110 patients whose eyes were examined before and during the treatment by a competent ophthalmologist, and in whom accurate records of the objective condition of the eyes, visual acuity and visual fields were kept In ninety-five (Table 6), there was complete absence of any preexisting ocular lesion, the eyes appearing in every respect normal Following tryparsamide therapy, twenty of these patients, or 21 per cent (excluding questionable reactions), developed visual disturbances The remaining fifteen patients showed definite preexisting syphilitic lesions of the eyes, and in twelve of these the optic nerve was involved Visual disturbances occurred in four, or 33 per cent, of these twelve patients Contrary to our early opinion, it is possible, therefore, to administer tryparsamide to patients with preexisting syphilitic eye disease, though we emphasize the necessity for careful ophthalmologic control in such cases The facts that visual disturbances may arise in patients with normal eyes, and that they may fail to develop in patients with outspoken syphilitic eye disease point toward direct toxic action of the drug on the retina or optic nerve as a factor in their causation

Yet this toxic action of tryparsamide is an inconstant and unpredictable phenomenon We have administered large amounts of the drug to many patients, who have been most carefully followed from the ophthalmologic standpoint, and, despite such intensive therapy, we have observed no ocular reaction of any kind Table 7 illustrates ten such cases from our series

The ultimate outcome of visual disturbances in our patients may be briefly summarized All the twenty-one patients with subjective reactions now have normal vision Of the thirteen patients with objective reaction, three recovered completely with normal vision and visual fields Three retained normal central vision, but are left with slight concentric contraction of the visual fields In five, there remained at the last examination definite diminution of visual acuity, but in each instance useful vision, at least 20/30 in the better eye, was still present One patient showed a more serious impairment, *the better eye having only 20/80 vision* One patient only is blind (Case 4) In seven of the thirteen patients, therefore, residual damage is moderate or severe in degree, while six were injured slightly or not at all The incidence of noteworthy permanent visual injury is thus 2 8 per cent in our 241 cases

This represents, we believe, an almost irreducible minimum of visual impairment from tryparsamide We have studied our cases carefully to determine whether visual impairment might have been prevented had additional precautions or safeguards been employed In only two instances (Cases 3 and 4, cited above), might objective injury have been avoided In one of these, preliminary warnings of blurred and dazzling vision were disregarded, in the other, the mental condition was too fogged to provide subjective warning In the remaining eleven patients with objective reactions, visual injury occurred simultaneously with the appearance of symptoms

The outcome in our patients, however, makes it probable that severe permanent visual damage may be largely prevented Ophthalmologic examination must be carried out at the first appearance of subjective disturbances, and visual acuity and fields compared with those noted before treatment At this point, objective injury, if present, is usually so slight as to leave useful vision, if the drug is permanently withdrawn Treatment of patients whose mental condition is too

TABLE 5—*Effect of Central Nervous System Disease on Incidence of Ocular Disturbances from Tryparsamide*

| Type of Disease | Number of Patients Treated | Total Number of Cases with Ocular Symptoms | Per Cent of Incidence | Ocular Disturbance: Subjective Cases | Subjective Per Cent | Objective Cases | Objective Per Cent | Questionable Cases | Questionable Per Cent |
|---|---|---|---|---|---|---|---|---|---|
| No Central Nervous System Disease | | | | | | | | | |
| Syphilis early and late | 55 | 8 | 5 4 | 2 | 3 6 | 1 | 1 8 | | |
| Nonsyphilitic | 10 | 1 | 10 0 | | | 1 | 10 0 | | |
| Total | 65 | 4 | 6 1 | 2 | 3 0 | 2 | 3 0 | | |
| Central Nervous System Disease | | | | | | | | | |
| Neurosyphilis all types | 178 | 36 | 20 2 | 21 | 11 7 | 11 | 6 1 | 4 | 2 2 |
| Epidemic encephalitis | 2 | 2 | 100 0 | 1 | 50 0 | | | 1 | 50 0 |
| Total | 180 | 38 | 21 1 | 22 | 12.2 | 11 | 6 1 | 5 | 2 7 |

* Excluding patients completely blind before treatment

dilapidated for cooperation, or the continuation of therapy after changes in visual acuity or fields have occurred, is fraught with grave danger

## COMMENT

The clinical picture of atoxyl and arsacetin amblyopia consists of gradual visual failure and constriction of the visual fields, at first without ophthalmoscopic changes, but later with the development of primary optic atrophy In the main, all observers have emphasized

that there are no scotomas and that the papillomacular bundle is not affected out of proportion to the balance of the nerve The pathologic lesions have been studied by Birch-Hirschfeld,[5] Igersheimer,[6] Sattler,[7] Key[8] and others These investigators agree that the chief action of these compounds is on the peripheral portion of the third optic neuron, although the ganglion cells of the retina, or the axis cylinder of the third optic neuron may be attacked Birch-Hirschfeld[5] believes that

TABLE 6—*Unpredictable Nature of Visual Disturbances from Tryparsamide*

| Condition of Eyes | Total Number of Cases | Cases with Untoward Ocular Symptoms | Per Cent Incidence | Ocular Disturbance: Subjective | Objective | Questionable |
|---|---|---|---|---|---|---|
| Vision, fields and fundi normal | 95 | 22 | 23 2 | 15 | 5 | 2 |
| Preexisting Syphilitic Eye Disease | | | | | | |
| Incipient primary optic atrophy | 4 | 2 | | 1 | 1 | |
| Doubtful primary optic atrophy | 5 | 1 | | 1 | | |
| Neuroretinitis | 3 | 2 | | 1 | | 1 |
| Interstitial keratitis | 2 | | | | | |
| Keratoiritis | 1 | | | | | |
| Total | 15 | 5 | 33 3 | 3 | 1 | 1 |

atoxyl has an especial affinity for the rods, and leaves the cones relatively unaffected A noteworthy feature of atoxyl and arsacetin amblyopia is that when visual failure and field constriction have begun, withdrawal of the drug has little or no effect on the progress of the reaction, the optic atrophy steadily progressing to complete blindness

Unlike the action of these two drugs on the optic nerve is that of a French proprietary said to be sodium benzosulphoaminophenylarsenate[9] Visual disturbances of a transitory nature apparently followed the administration of this drug, clearing within twenty-four hours, recurring again if the drug was again administered, and disappearing completely without residual damage when the drug was withdrawn

The clinical effect of tryparsamide on the eyes presents a picture between that of this French proprietary and that of atoxyl and arsacetin Tryparsamide may cause subjective visual disturbances without organic damage, clearing spontaneously on withdrawal of the drug Or, definite damage may occur leading to visual failure, concentric contraction of the fields, and, in one case at least, to complete primary optic atrophy But unlike the action of atoxyl and arsacetin, the first appearance of organic damage does not indicate the onset of a hopeless and progressive optic atrophy Withdrawal of the drug at this stage is followed by the arrest of both the visual symptoms and the organic disturbance

As a result of our experience with tryparsamide thus far, we have adopted the following method of guarding against untoward visual accidents Before the commencement of tryparsamide therapy, the eyes of the patient are carefully examined Any organic defects, visual acuity with refraction correction, and visual fields are accurately recorded The patient is then warned to report visual disturbances of any kind If these occur, the eyes are immediately reexamined If no change in the visual acuity or visual fields is noted, tryparsamide therapy is usually continued If, however, any failure of central vision, and especially any contraction of the visual fields, is present, the drug is immediately withdrawn By this means, we believe it possible to use tryparsamide with relative safety, and to reduce to a minimum damage to the vision or the nervous tissues of the eye

When such an important function as vision is involved even slightly, however, the use of a drug should be limited to that class of patients in whom some risk is justified by an appropriate therapeutic gain The field of usefulness of tryparsamide lies, so far as we now know, in the treatment of trypanosomiasis and of neurosyphilis[10] In these conditions, both with an otherwise relatively poor prognosis, the therapeutic results of its use are distinctly encouraging In patients with syphilitic manifestations elsewhere than in the nervous system, on the other hand, the drug is not as efficacious as the arsphenamins, and, in view of the gravity of possible visual damage, it should not be used In other conditions, such as encephalitis, anemias, and malnutrition, in which the drug has so far been cautiously tried, there is no positive evidence of its value, and we believe that the risk of visual damage is too great to justify its further trial For the present, at least, the general use of tryparsamide ought to be strictly confined to trypanosomiasis and neurosyphilis[11]

## SUMMARY

1 Visual disturbances produced by tryparsamide may be divided into the classes of subjective and objective The symptoms of dim or dazzling vision are common to each class In the subjective group, ophthalmologic examination gives negative results In the objective group, the striking ophthalmologic change is constriction of the visual fields for form, without scotomas, and with or without diminution in the visual acuity

2 In patients with reactions of the subjective type only, it is usually possible to administer more tryparsamide without further difficulty

3 If objective evidence of visual damage is present, the drug should be permanently withheld

4 Among 241 patients, who have received more than 3,000 injections of tryparsamide, 10 2 per cent have

TABLE 7—*Individual Cases Showing that Large Amounts of Tryparsamide May Be Given Without Ocular Damage*

| Diagnosis | Tryparsamide: Total Number of Doses | Total Dose, Gm | Average Dose, Mg per Kg Body Weight | Condition of Eyes: Before Treatment | After Treatment |
|---|---|---|---|---|---|
| Central nervous system meningovascular | 19 | 46 5 | 37 | Optic neuritis | Cleared up eyes normal |
| General paralysis | 20 | 57 5 | 40 | Incipient optic atrophy | No change |
| Central nervous system meningovascular | 22 | 53 0 | 30 | Normal | Normal |
| General paralysis | 20 | 59 0 | 44 | Incipient optic atrophy | No change |
| Tabes | 21 | 47 0 | 42 | Normal | Normal |
| General paralysis | 39 | 86 1 | 43 | Normal | Normal |
| Asymptomatic central nervous system | 38 | 90 0 | 34 | Normal | Normal |
| Tabes | 32 | 84 5 | 43 | Normal | Normal |
| Tabes | 37 | 90 0 | 39 | Normal | Normal |
| General paralysis | 42 | 94 0 | 34 | Normal | Normal |

5 Birch Hirschfeld, A and Koster G Die Schädigung des Auges durch Atoxyl Arch f Ophth **76** 403, 1910

6 Igersheimer, J Ueber die Wirkung des Atoxyl auf das Auge, Arch f Ophth **71** 379, 1909

7 Sattler, C H Anatomische Untersuchungen eines Falles von Erblindung nach Arsacetin Injektionen, Arch f Ophth **81** 546, 1912

8 Key B W Effect of Atoxyl on the Eye, Univ Pennsylvania M Bull **22** 124

9 Hallopeau, H, and François Dainville Obnubilations passageres de la vue survenues apres 17 jours de traitement par l'hectine, Bull Soc franç de dermat et syph **65** 46, 1911

10 Pearce (Footnote 2) Lorenz, Loevenhart, Bleckwenn and Hodges (Footnote 3) Moore Robinson and Keidel (Footnote 4)

11 Moore, J E Robinson H M, and Lyman, R S The Results of Tryparsamide Therapy in Syphilis, to be published

developed reactions of the subjective group, and 5 5 per cent the objective type of visual disturbance

5 Ninety-four per cent of all reactions occurred early in the course of the treatment, by the time of the tenth injection

6 Visual disturbances bear no direct relationship, within certain limits, to the dose of the drug administered

7 Disease of the central nervous system, especially general paralytic and tabetic neurosyphilis, is to some extent a predisposing factor to visual disturbance from tryparsamide

8 Preexisting syphilitic disease of the optic nerve or retina is not necessarily a contraindication to the use of tryparsamide

9 It is probable that the drug exercises, in some instances, a direct toxic action on the retina or the optic nerve

10 Before beginning tryparsamide therapy, every patient should be examined by a competent ophthalmologist as to visual acuity, fundi and visual fields The occurrence of any visual disturbance must form the occasion for a second examination

11 In the present status of our knowledge of the drug, its use should be strictly limited to the treatment of trypanosomiasis and of neurosyphilis

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# STUDIES ON THE METABOLISM OF OBESITY

PRELIMINARY REPORT *

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It seems rather unfortunate that the interesting problem of obesity has been befogged by the niceties of endocrine terminology, for attempts at elucidating the underlying metabolic anomaly of obesity cannot rest satisfied with names It is perfectly true that diseases of certain endocrine organs, notably the thyroid, hypophysis and sex glands, are associated with symptom complexes embracing obesity, yet up to the present time it is extremely doubtful whether any exact metabolic explanation has been made of the concomitant obesity except in hypothyroidism, where a lowered basal metabolism exists In other instances of endocrine disease, changes in the metabolism are inconsistently found, but neither theory nor ascertained fact has conclusively eliminated the thyroid as an etiologic agent in the obesity Some of the anatomic localizations of fat deposits that have been described as pathognomonic of disturbances of special glands are of more interest from the standpoint of clinical speculation than of proved metabolic fact

When we started our studies four years ago, obesity cases were generally divided into four groups (1) obesity due to overeating or underexercise, (2) obesity due to thyroid deficiency, (3) obesity associated with disturbances of other ductless glands, and (4) obesity of unknown etiology, the so-called "constitutional" obesity Studies of the metabolism up to 1907 were comparatively few, and according to von Noorden, not exempt from criticism because of faulty technic Means, in 1915, expressed the opinion that there was no characteristic change in basal metabolism in obesity, an opinion that has been fully verified by subsequent work Isolated and, on the whole, unsatisfactory studies of the effect of food were published, with no concordant results

It seemed to us that, to acquire a real insight into the anomalies of metabolism in obesity, it would be necessary to inquire into the total day's activity of obese persons This would include the effect of food and of exercise on the metabolism In addition to studying the effect of food and exercise on total metabolism, it seemed necessary to obtain information on the sources of energy, in other words, to study the proportions of protein, fat and carbohydrate oxidized to form the total metabolism

We first studied the caloric intake of some obese persons, and by carefully controlled dietary experiments in the hospital and the home we were able to prove that some obese persons maintained their body weight on diets far below their calculated caloric requirements The details of this work will be reported elsewhere

Our next object was to study the effect of various foods on obese persons and to compare these results with identical experiments on normal and thin persons In this work we purposely avoided endocrine labels, our cases were selected merely on the basis of percentage deviation from calculated normal weight, and no correlation between clinical pictures and metabolism was made until after the metabolism studies were completed and recorded Our normal and thin controls were all healthy persons Our subjects varied from 30 per cent underweight to 140 per cent overweight

The technic was standard throughout In most instances the subject was given a trial day in the apparatus to accustom him to the procedure The following day, after basal metabolism readings were made, standard meals of protein, fat or carbohydrate were given, and the increment in metabolism measured at two hour intervals for eight hours, except after carbohydrate, when the interval between readings was shortened The Tissot apparatus with Haldane gas analysis was employed entirely in the last three years' work Part of the earlier work was done with the Benedict portable machine [1] In all work done with the Tissot apparatus, urinary nitrogen was determined for each period, so that the nonprotein respiratory quotient could be calculated With the data thus accumulated we were able to study (1) basal metabolism of persons of widely varying build, (2) the specific dynamic action of food, and (3) the sources of energy after food

The basal metabolism studies have been charted to show the variation from estimated normal of each individual, and the charts show that, despite the extremes of weight, most of the cases lie within the ± 10 per cent usually accepted as normal, two readings are below 15 per cent and three above 15 per cent Of the two subjects showing subnormal readings, one had clinical signs of myxedema, and the obesity of one followed double oophorectomy Of the three subjects above 15 per cent, one was receiving thyroid extract, one had recurrent attacks of acute polyarthritis, and one had a huge thyroid, tachycardia and nervousness

* From the Otto Baer Fund for Clinical Research and the Gusta Morris Rothschild Fund of the Michael Reese Hospital and the Nelson Morris Institute for Medical Research

1 Part of this work was performed in the laboratory of Professor Katherine Blunt at the University of Chicago

The specific dynamic action of protein was found strikingly diminished in the obese This can easily be seen by charting the averages of all readings, yet the individual experiments exhibited great consistency in the failure of the obese to react to protein in the way normal or thin persons do The experiments with fat meals did not reveal any difference in behavior between the three groups (obese, normal and thin) After carbohydrate, the results were inconclusive, the average curve was lower in the obese, but in individual cases the results were not consistent Whereas after protein one can almost predict the curve of metabolism, after carbohydrate the obese persons follow no rule

We have attempted to analyze our studies on the source of energy after the meals, but definite conclusions are withheld for the present Studying the results after a protein meal, we fail to note any difference in the calories derived from protein by the three groups The fat metabolism shows much more marked variations in the obese We have arbitrarily grouped the results, the reaction curve of one group differs markedly from the curve of each of the other groups, and no such wide variation is seen in the normal cases The carbohydrate metabolism seems to act in an inverse ratio to fat, when the calories derived from fat are high, the carbohydrate calories are low

## SUMMARY

We have shown that (1) obesity in certain persons may occur on food intakes much below their calculated caloric requirements, (2) the basal metabolism in obesity does not differ from the normal, (3) the specific dynamic action of protein is decidedly less marked in the obese than in the normal, and (4) there probably exists an anomaly of fat metabolism in the obese, the exact nature of which has not been ascertained

The significance of these observations in solving the problem of obesity cannot be estimated until studies on the cost of work are completed and the accumulated data carefully analyzed

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# TUBERCULOUS PERITONITIS AND DISSEMINATED CARCINOMA OF THE PERITONEUM

## SOME POINTS IN THE DIFFERENTIAL DIAGNOSIS *

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It is almost universally conceded that tuberculous peritonitis is frequently associated with the development of a palpable mass in the abdomen This peculiarity, together with the great diversity of the other signs and symptoms of peritoneal tuberculosis, may occasion considerable difficulty in differentiating tuberculosis from carcinoma of the peritoneum, as is apparent from the report of several cases here presented

## REPORT OF CASES

CASE 1.—*History*.—Mrs H B, aged 34, a married woman, whose mother died of pulmonary tuberculosis, had pertussis, measles and enlarged cervical glands as a child At 16 years of age she had been subjected to an Alexander operation, and at 21 years to an appendectomy She was married when 24 years old, and had two children, the first, three and one-half, and the second, five years after her marriage Since the birth of her second child she had been unwell Her condition had been diagnosed as neurasthenia and later as hyperthyroidism She had lost weight and strength, had little appetite, and complained of indefinite burning pains in the abdomen, localized over the stomach, which were relieved by eating

On her admission to Jefferson Hospital, March 11, 1922, roentgen-ray examination revealed a filling defect of the cardiac and median portions of the stomach, indicating an organic lesion of the upper three-fourths of the stomach The roentgenologist suggested that the condition was a new growth, but suspicion was directed to tuberculosis of the stomach and peritoneum The patient was discharged unimproved, April 9, with instructions to return later for operation When readmitted to the hospital, April 22, after attacks of abdominal pain and vomiting, she had ascites, about 2,500 c c of fluid being removed by paracentesis This fluid contained albumin, a few disintegrated mononuclear cells, and large gram-negative bacilli (probably *Bacillus subtilis*), but no pus or tumor cells Roentgen-ray examination demonstrated that the abdominal mass had increased greatly in size A diagnosis of gastric carcinoma having been arrived at, laparotomy was performed, May 4, disclosing what appeared to be an inoperable malignant tumor of the stomach A section of omentum was removed for examination The firm, yellowish-gray, shapeless mass of tissue, measuring 2 by 1 by 0 5 cm, was cut only with considerable difficulty Histologically, after formaldehyd-alcohol fixation, the sections showed extensive fibrosis, mononuclear leukocyte infiltration, and small areas of fatty tissue There were also a number of circumscribed foci of mononuclear leukocytes, some with necrotic centers, and a few giant cells There being no evidence of carcinoma, the process was considered as of chronic inflammatory nature, probably tuberculous, and a diagnosis of chronic tuberculous peritonitis was made However, tubercle bacilli were not found in sections of the tissue

The patient continued to lose ground after the operation, and had considerable pain, with nausea and retention vomiting Because of the clinical suspicion of tuberculous peritonitis, she was removed from the hospital for a course of heliotherapy by the Rollier technic, which was continued for three weeks with marked improvement in the patient's condition generally The ascites, which had reappeared despite repeated tappings and injection of oxygen into the peritoneal cavity, practically disappeared, so that large fixed tumors became palpable and visible over the center of the abdomen Animal inoculations with the ascitic fluid and urine of the patient yielded negative results for tubercle bacilli After some time, fluid again accumulated in the abdomen, and the patient failed gradually and died in July, 1922

*Necropsy*.—The necropsy, which was performed by Dr Baldwin Lucke, was limited to the abdominal organs An accumulation (about 2,000 c c) of clear, straw-colored fluid was found in the peritoneal cavity The small intestines were agglutinated into a round mass by a partially organized fibrinous exudate A similar substance covered the surface of the various abdominal viscera The small stomach, about 12 cm in its greatest diameter, had very tough walls, from 1 to 3 cm in thickness The gastric walls everywhere had a fibrotic appearance, with nests and irregular strands of epithelial elements and small round cells The subperitoneal layer was considerably thickened, and contained rows of epithelial cells, many of which had undergone mucoid degeneration The mucosa was broken over considerable areas and apparently intact elsewhere Microscopically, its glandular elements were arranged in fairly normal order, but large numbers of mononuclear elements resembling lymphocytes were discernible between the glands In the omentum, which was considerably thickened, the fat was almost entirely replaced by bands and whorls of connective tissue, containing scattered rows of epithelial cells, many of which were the seat of mucoid degeneration The findings in the subserous surfaces of the intestines were similar to those in the stomach

There was no gross or microscopic evidence of tuberculosis The anatomic diagnosis was diffuse scirrhous carcinoma of the stomach (leather-bottle stomach) with dissemination throughout the peritoneum

CASE 2.—*History*.—A F, a man, aged 35, who had been a heavy beer drinker for nine years and whose sputum contained tubercle bacilli, had been subjected to laparotomy for an

* From the medical service and the pathologic laboratories of Philadelphia General Hospital

abdominal complaint, in December, 1922, at which time a diagnosis of tuberculous peritonitis was made He was admitted to Philadelphia General Hospital, to the service of Dr Joseph Sailer, Jan 26, 1924, complaining of sharp epigastric pain, radiating to the left renal region The pain occurred after meals, appearing within two minutes after light food, and from one-half to one hour after solid food was ingested The man's appetite had been poor for several months and he had been subject to gaseous eructations in the morning His weight, which had averaged 139 pounds (63 kg) during normal health, had been 128 pounds (57 kg) a month before, and 144 pounds (65 kg) two weeks before the date of examination This increase had been due to enlargement of the abdomen The man had been coughing slightly for a month, had vomited repeatedly for two weeks, and had epistaxis for ten days The abdomen was greatly distended, and the spleen, liver and epitrochlear glands were enlarged Palpation of the abdomen for fluctuation revealed a definite fluid wave Four gallons of yellowish fluid was aspirated from the abdomen The routine examination of the blood disclosed evidences of secondary anemia The Wassermann reaction was negative The urine contained a light cloud of albumin and a few leukocytes Roentgen-ray examination revealed obstruction at the cardiac end of the stomach The patient died, March 3

*Necropsy*—The body was wasted The abdomen was protuberant and contained 6,400 c c of clear, yellow fluid From the epigastric scar that remained after anterior gastroenterostomy, dense adhesions passed to the liver and to loops of small intestine, to the transverse colon and the stomach Bands of dense adhesions were found throughout the peritoneal cavity The mesentery was greatly thickened, and felt granular to the touch It was studded with large nodes, up to 2 cm in diameter The omentum likewise contained numerous nodules, which, from gross and microscopic findings, were considered carcinomatous The walls of the stomach were greatly thickened, being about 10 mm at the cardia and 20 mm at the pylorus Evidently this thickening involved particularly the submucous layer The greater and lesser curvatures were the seat of many nodules varying in diameter up to 1 cm, some of these had the form of lymph-nodes, while others were only small, white spots Microscopically, in fresh and frozen sections there was general infiltration of carcinomatous nodules, which were composed of round, cuboidal and columnar epithelial cells, many arranged in the form of atypical tubules with marked mucoid degeneration There was noteworthy shortening of the small intestines, the lumen of which was considerably dilated The peritoneal surface was dotted with flat nodules of irregular form and of translucent appearance Here and there, especially along the mesenteric border, there were larger nodules, consisting of dense white tissue and resembling somewhat caseous tubercles On pressure the nodules exuded a milky fluid, but their structure was not altered There was no definite ulceration of the mucosa of the intestine, but there were a few raised patches, white and firm, some with an injected appearance These patches did not extend beyond the ileocecal valve, although the peritoneal changes affected also the large intestine The peritoneum was obviously the seat of secondary carcinomatosis Metastases were found also in the esophagus, liver, cystic duct, splenic capsule bladder, lungs and pleura The pleural cavities contained 2,400 and 1,900 c c of fluid The anatomic diagnosis in this case was interstitial gastric carcinoma (leather-bottle stomach), with dissemination over the peritoneal surface of the intestine

## SYMPTOMS AND DIAGNOSIS

One might assume that the correct diagnosis in these cases would have been comparatively easy Nevertheless, tuberculous peritonitis was suspected in each case, and the patients were treated for this condition In both there was a history of progressive loss of weight and strength, gastro-intestinal disorders and abdominal pain In Case 1, the clinical findings were seemingly so definite that several consultants concurred in the diagnosis of peritoneal tuberculosis The patient's mother had died of pulmonary tuberculosis, and the patient was known to have had enlarged cervical glands in childhood In Case 2, tubercle bacilli were found in the sputum Laparotomy in each case had yielded apparent evidence of tuberculous peritonitis

*Tuberculous Peritonitis*—The age incidence of tuberculous peritonitis as well as of malignant tumors of the peritoneum varies within wide limits Some authorities consider tuberculosis of the peritoneum a disease of early life Morley Fletcher [1] recorded eight patients under 1 year Of 883 tuberculous children, Biedert [2] found tuberculous peritonitis in 18 3 per cent at necropsy In many of these there were scattered tubercles which had produced no symptoms during life On the other hand, it is quite generally admitted that tuberculous peritonitis occurs most frequently between 20 and 40 years, in which group both our patients are included Of 357 cases reviewed by Osler,[3] only twenty-seven occurred before 10 years of age, whereas 158 occurred between 20 and 40 years The disease may be observed in advanced life, one of Osler's patients was 82 years old On the other hand, the majority of cases of carcinoma of the stomach and of the peritoneum occur between 40 and 70 years Of Osler's 150 patients, 127 were over 40 years, whereas only twenty-three were under that age

Primary peritoneal tuberculosis is rarely observed It may occur in children when the bacillus penetrates the intestine without producing intestinal changes This type of infection is commonly the cause of subacute or chronic forms of the disease, with irregular nodular masses, exudation and adhesions, producing a characteristic matting of the abdominal viscera and the peritoneum into large masses Such masses are often mistaken for tumors The omentum may be rolled up into a firm, long mass lying across the upper abdomen This finding is an infrequent source of diagnostic error, but unfortunately it occurs quite commonly also in carcinoma of the peritoneum The exudate may become sacculated or encysted, either in the median aspect of the abdomen, or on either side, or a tumor may be simulated by marked thickening or retraction of the small intestine In secondary scirrhous carcinoma also, the small intestine may be contracted into a hard mass no larger than a man's fist In chronic tuberculosis of the peritoneum, large, fibrotic tubercles growing from the peritoneum may have every characteristic of a frank neoplasm The onset of generalized peritoneal tuberculosis is usually very gradual There may be a history of alcoholic excess or of other factors that predispose to cirrhosis of the liver and to tuberculous peritonitis In patients with ascites, swelling and tenderness of the abdomen may be the first suggestive signs These are usually due to tympanites, which, however, gradually gives place to effusion of fluid, though this is rarely large The ascitic fluid may contain no tubercle bacilli, since these usually adhere firmly to the peritoneum Occasionally the fluid is hemorrhagic Gastro-intestinal disturbances, with anorexia, loss of weight and strength, and secondary anemia, become more and more pronounced Our first patient had been treated for hyperthyroidism because of her physical decline As ascites becomes more marked there may be edema, especially of the feet, from pressure on the inferior vena cava Should the ascites become encysted, it may be overlooked, or its presence may give rise to a mistaken diagnosis of tumor Ordinarily the temperature is subnormal in chronic tuberculous peritonitis In caseous

1 Fletcher Morley in Garrod A E Batten F E and Thursfield Hugh Diseases of Children New York Longmans Green & Co 1913 p 212
2 Biedert Jahrb f Kinderh 21 1 8 1884
3 Osler Practice of Medicine New York Ed 9, 1920 pp 120 489

or ulcerative forms of peritoneal tuberculosis, especially as a sequel to other types, there may be irregular fever, due to caseation of the tuberculous nodules, with discharge of pus In obliterative forms of tuberculous peritonitis, the symptoms and clinical signs may be even more vague There is often evidence of chronic intestinal obstruction, constipation, flatulence and indefinite, more or less constant, abdominal pains

The abdomen is rounded or globular As the pressure from the fluid increases, the subcutaneous veins become prominent The skin is tense and glistening, dry and inelastic There may be pigmentation, simulating Addison's disease The respirations are rapid and shallow if there is much pressure on the diaphragm The patient's face is emaciated and drawn, with an anxious expression There may be simultaneous pleurisy with effusion, an important diagnostic point Palpation may reveal the thickened omentum forming a long roll across the upper abdomen, tumor-like masses due to enlarged glands, and contracted and adherent coils of intestine These masses are usually tender and are not freely movable

*Cancer of the Peritoneum*.—Very few of the foregoing symptoms and signs are so characteristic as to preclude a diagnosis of carcinoma of the peritoneum The latter is usually secondary to cancer elsewhere in the body, especially to disease of the stomach, liver and pelvic organs Warthin [4] maintains that most reported cases of primary carcinoma of the peritoneum have not been clearly differentiated from so-called endothelioma Extension takes place directly from adjacent viscera or by way of the lymph or blood from more distant organs As in tuberculosis, the retroperitoneal and mesenteric glands are usually involved The omentum is frequently contracted into a thick, indurated mass with the same gross characteristics as in tuberculosis There may be massive, irregular tumors in the abdomen, or scattered collections of soft colloid material or irregularly distributed nodules In the scirrhous form of carcinoma, the small intestine may be contracted into a small, hard mass, or the various coils may be matted together by sheets of connective tissue As in our cases, without evidence of a primary lesion the picture is often that of chronic ascites with progressive loss of weight and strength The fluid accumulation is usually larger (4 gallons in one of our patients) than with tuberculous peritonitis It may be clear, opalescent or amber colored, but is more often hemorrhagic A preponderance of endothelial cells or large mononuclear cells in groups is presumably suggestive of carcinoma, as distinguished from a preponderance of lymphocytes in tuberculosis, especially in patients over 40 years of age On the other hand, with colloid carcinoma the abdomen may be filled with a semisolid, gelatinous mass which is not fluctuating, but firm The appearance of the abdomen, if there is ascites, is not unlike that in tuberculous peritonitis with effusion All the symptoms related to displacement of the diaphragm by the fluid collection may be found in cancer as well as tuberculosis There may even be secondary carcinoma of the pleura with effusion (as in Case 2) Fever is more common in carcinomatous than in chronic tuberculous peritonitis

### DIFFERENTIAL DIAGNOSIS

Since gastro-intestinal disturbances, emaciation, loss of strength, fever, abdominal discomfort and pain, ascites and presence of tumors are common features of tuberculous peritonitis as well as of peritoneal carcinoma, a painstaking inquiry into the history and a careful physical examination will usually be required to determine the primary cause Young subjects are more apt to have tuberculosis than cancer

The tuberculin test does not furnish sufficiently reliable evidence for a definite diagnosis A history of a previous attack of ascites, with sweats and tachycardia, favors tuberculosis Fever and bradycardia are found more commonly in carcinoma of the peritoneum The carcinomatous masses are usually of wooden consistency, though in colloid cancer the abdomen may be filled with a semisolid substance Since peritoneal cancer is more commonly a complication of gastric disease, a gastro-intestinal examination may present suggestive evidence There may be motor insufficiency of the stomach, and gastric analysis may demonstrate persistent diminution of hydrochloric acid, and the presence of lactic acid and blood As described by Ziegler and others, however, hyperacidity may be found in early cancer With the appearance of lactic acid and persistent diminution of hydrochloric acid, the ferments also disappear in 89 per cent of cases of gastric cancer The finding of the Boas-Oppler bacillus with clots of blood, in the absence of hydrochloric acid, is almost pathognomonic of cancer Microscopically, blood cells, blood pigment and pus cells in the stomach contents constitute significant evidence of malignant disease Later, there may be found shreds of mucosa, with glandular atrophy, or a piece of tumor tissue In many cases, a definite diagnosis will be impossible without histologic examination of a section of tissue removed in the course of exploratory laparotomy But even such findings may be misleading, as in our cases An excellent therapeutic test of the diagnosis of tuberculous peritonitis is offered by heliotherapy according to Rollier's method, which, as Lo Grasso [5] has recently brought out, produces definite and permanent improvement in the majority of cases of tuberculous peritonitis

### SUMMARY

1 In two cases of diffuse carcinoma of the peritoneum which came to necropsy, tuberculous peritonitis was the clinical diagnosis, and this was confirmed by a pathologic report on a section of omentum, removed in one case during laparotomy

2 The determination of the existence of a primary focus of tuberculosis should not preclude the possibility of carcinoma existing in the peritoneum

3 Since the symptoms and physical findings may be strikingly similar in tuberculous peritonitis and carcinoma of the peritoneum, a painstaking consideration of the differential features is essential Heliotherapy is an excellent therapeutic test of the diagnosis of tuberculous peritonitis, since it produces definite improvement in the majority of cases

4 The unusual character of the metastasis in these cases is noteworthy

1711 Spruce Street

4 Warthin Reference Handbook of the Medical Sciences, New York 7 124, 1917

5 Lo Grasso New York State J Med 22 281 (June) 1922

**Freshmen's Defects**.—Among 1,903 first year students examined at the Ohio State University, Columbus, 94 2 of the men were found physically deficient in some respect Measles was far the most usual childhood disease reported by students More than four of five having had measles, pneumonia was next, then scarlet fever, diphtheria, typhoid, smallpox and rheumatism

# CHOLECYSTOSTOMY VERSUS CHOLECYSTECTOMY *

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Interest in surgery of the gallbladder and bile passages received its greatest stimulus with the introduction of cholecystectomy by Langenbuch in 1882 Observations at the operating table and laboratory studies of the removed organ, since that time, have borne fruit in the knowledge of the diseases of the gallbladder which is at our command today This knowledge is quite wide, but there are many questions and many problems that await solution, one of which in its practical aspects is before us for discussion in this paper

After the first rush of enthusiasm which greets almost every innovation, colder judgment, with more facts at its command, begins to question the rationale of the innovation In surgery, we hear the swaying of the pendulum in the cry that we are removing too many appendixes or that we are performing too many gastroenterostomies Gallbladder surgery is no exception to the rule, and today the question of cholecystectomy versus cholecystostomy is again or, perhaps, is still occupying the minds of the clinician, the pathologist and the surgeon alike

In considering the surgical aspects of this subject, the immediate questions that present themselves for answer are (1) the indications for surgery in cholecystic disease, (2) the type of operation, and (3) the end-results As in any other subject dealing with disease, the prime considerations are the questions of the pathogenesis and the course of cholecystitis, especially calculous cholecystitis There is little difference of opinion today that it is not the gallstones per se, but the inflammatory processes induced by the calculi that determine the gravity of gallstone disease, the severe pain is chiefly an expression of the inflammatory process produced by the stones This merely shows, in other words, that acute and recurrent attacks of gallstone colic are practically always due to acute and recurrent cholecystitis, cholangeitis, pancreatic lymphadenitis, subacute pancreatitis, or all of them The surgeon, therefore, encounters in his work the effects of the inflammatory process, and his efforts are directed toward removing their results and preventing their recurrence or continuance Grossly, we have gallbladders that can be arranged in series so as to show every stage and type of infectious inflammation enlargement, acute and chronic exudates, infiltrates, and fibrinous and fibrous adhesions to neighboring organs With each repeated attack of cholecystitis, there is another change added to the already altered structure of the gallbladder, now in the form of thickening of its walls, now in the form of ulcers, now in the form of cicatricial contraction, and so on We will return to the subject of the pathologic anatomy later

## CLASSIFICATION

Clinically, we may classify gallbladder cases in a number of ways, but a very useful classification is that which divides them into those that have had a single attack which never recurs or in which recurrence does not take place for a number of years, and cases of persistent infection Recurrence, when it does occur in the first type, is evidently the result of a new infection, and these cases may or may not subsequently fall in with the second and much larger group of persistent infection of the gallbladder, in which the attacks greatly increase in severity and frequency until, eventually, operative relief is imperatively demanded Without further discussion, we shall maintain the position that we have held for many years, namely, that in the first mentioned group of cases it is policy not to operate in or after a first acute attack, but that as soon as a case falls into the second group, it belongs to the class in which surgery is indicated And we must repeat and emphasize, over and over, that the earlier the surgery is undertaken when this diagnosis is established, the greater are the chances for ultimate cure and entire well-being Both the profession and the public, responding to the propaganda of the last several decades, have begun to realize the possible remote effects of acute appendicitis, and are ready and anxious for operation, but they do not as yet realize the strong resemblances between acute appendicitis and acute cholecystitis

## EFFECTS

The possible effects are very much the same as far as suppuration, gangrene and perforation are concerned The remote effects are just as grave, if not more so, when diseases of the gallbladder are allowed to progress with acute exacerbations, or even to prolonged chronicity without acute recurrences The greatest menace, of course, is the formation of gallstones or the immediate effects of calculi already present, which sooner or later bring into involvement the common and the hepatic ducts and the pancreas, to say nothing of the liver, and general sepsis of the entire body It is in the cases in which operation is performed as a last resort and "the morphin needle has been the frequent victor in the battle of the gallbladder for relief, and the patients have reached a state of physical and nervous collapse" that the end-results discredit surgery Patient and physician alike are apt to think that each attack is the last, and so it may be—the last one before perforation, which is more frequent than is generally supposed Protective barriers in the shape of adhesions often successfully prevent catastrophes, but pericholecystic adhesions are one of the serious menaces of repeated attacks of cholecystitis The patient with many pericholecystic adhesions can seldom be made entirely free from symptoms

One last word concerning calculi It must be borne in mind that, in nearly all instances, they originate in the gallbladder, and the stones or particles of stones found in the ducts are particles or actual stones that have escaped from the gallbladder Choledocholithiasis is a very unpleasant chapter in gallbladder surgery, and in many instances it is a sad commentary on medical practice Prophylaxis of the stones in the common duct is possible by the early removal of the stones from the gallbladder

## COURCES OF PROCEDURE

And now the question arises Should the gallbladder be removed or should it be drained? To express an opinion on this subject, it is necessary to consider it from many angles, beginning naturally with the function of the gallbladder We may say that this is still an unsettled question We have abundant evidence to tell us that its contractile power is quite low, that it probably never exerts a greater pressure on the bile

* Read before the Section on Surgery General and Abdominal at the Seventy Fifth Annual Session of the American Medical Association Chicago June 1924

than the pressure which the liver in secretion can produce This means that if the squirting out of bile should be important, it is never done, that is, there is no mechanism for squirting out the bile as we should imagine there is in an organ with muscular activity, such as the urinary bladder It concentrates the bile, and from recent studies we have quantitative data on the rate at which this can be done The liver probably secretes more or less continuously, although at a varying rate It is known that the bile does not flow into the intestine continuously, but only when digestive demands are made on it The gallbladder then receives the bile during the interim It cannot store the quantity that the liver secretes, so the bile is concentrated and made to occupy less space

There are, however, several questions that have not been answered We know that the gallbladder adds mucus to the bile Does it add anything else? We know that the gallbladder concentrates the bile by removing at least what amounts to a normal saline solution Does it remove anything else? The answers to these questions are not as yet forthcoming, but the crux of the situation in regard to the physiology lies in these thoughts We do not remove a normal gallbladder This presupposes that we can recognize when a gallbladder is diseased, and this will be discussed presently When we remove a diseased gallbladder, the crucial question is how much of a change must be present in the organ to prevent it from functioning normally We cannot answer this question quantitatively, except in the extremes When it is normal in appearance, we assume in our practical work that the gallbladder is functioning normally, when its walls are one-half inch thick and saturated with suppurative exudate, when its contents are pus, stones and sand, we assume that the gallbladder did not function

The borderline cases, between normal and very slight disease, are the ones in which we are chiefly interested Suppose we remove a normal organ Do any bad results follow? Dilatation of the ducts, incontinence of bile, and other such sequelae have been found, but it is extremely doubtful whether these are of any great importance in the general metabolism of the body We have as a basis for this statement not only experimental but also clinical results in two directions in the one, in which gallbladders, almost normal, have been removed, and this has possibly happened in a number of cases, we have heard of no serious results, in the other, many hundreds of patients have had their gallbladders so destroyed by disease that all the specific structure has been replaced They have been as good as without a gallbladder for a number of years They have had symptoms which, we can say with great assurance, are due not to the loss of gallbladder function, but to the infective processes, because when the functionless gallbladder has been removed by cholecystectomy the patients have been to all intents and purposes well In brief, since the proof of the pudding is and always will be the eating, we know that clinical experience has proved beyond a doubt that mankind, particularly womankind, can get along very well without this organ

## PATHOLOGY

We must not consider the pathologic aspects of the subject First and foremost is the question of the recognition of early and irrecoverable disease of the gallbladder We have said that it is not our policy to operate in or after the first acute attack of cholecystitis When we operate in acute cholecystitis, it is, therefore, on the patient who has had the history of previous acute attacks or of continuous trouble in the upper right abdominal quadrant We say the latter advisedly, for there is no man living who can always distinguish between cholecystic disease, gastric or duodenal disease, disease in an appendix in a high position, and so on Given a patient, therefore, who presents symptoms in the upper right abdominal quadrant, at operation it is necessary, if the pathologic condition is not extensive—and it is just this type of case which we as surgeons are always hoping for, are always praying for and are always asking our medical confreres to send us—to find the lesion causing the patient's sufferings

We need not dwell on the signs of gross acute inflammation in any organ. These we all can recognize, but in chronic cholecystitis, the organ may be large or it may be small Its walls may be thick or they may be thin, there may be adhesions or there may be none, the factors that produce these different anatomic pictures are familiar enough They include number, type, virulence of the bacteria, age of the process and position of the granulation tissue deposited In the organs that are only mildly diseased, the walls will be slightly less translucent, they will not have the same tonicity, instead of a steely blue color, there will be an admixture of gray When the gallbladder is emptied, the walls remain partly or wholly flaccid The aspirating needle withdraws very black bile, perhaps finely granular There is no other demonstrable lesion in the stomach or duodenum We make the diagnosis of chronic cholecystitis

Shall we remove the organ? Will it recover under drainage? Has the organ been performing its function? If not, will its function be regained? These questions as yet can be answered only by opinions, with only one exceptional fact standing out clearly, and that is that bacteriologic examinations of this organ in our own clinic, and in a number of other clinics as well, have shown that they are often infected not in their mucosa alone but also in their walls, and yet may show but slight gross changes We prefer to remove this organ, and we are led to do this through a number of circumstances

## ROUTES OF INFECTION

As to the route of infection, the possibilities are through the blood stream, by way of the cystic artery, up from the duodenum by the lumen of the common duct and cystic duct, from the intestine through the portal vein, through the liver, and down by way of the hepatic ducts, from the intestine through the portal vein, through the liver and into the gallbladder through the lymphatics of the portal spaces, and, finally, ascending from the duodenum through the lymphatics in the walls of the common duct It is not a question of which is the mode of infection, but which is the mode of infection in any particular case, for, according to our belief, infection may take place by any, several or all of these routes

The pivot about which the discussion revolves is that the gallbladder, in any event, no matter by what route infected, can be and is the distributing point of infection in all directions, in other words, a gallbladder once infected may continually reinfect itself and keep spreading the infection to neighboring organs To illustrate Bacteria are present in the bile, and stasis from some cause or another allows proliferation The mucosa of the gallbladder is invaded, bacteria enter the lymphatics, they spread into the liver by which they may be excreted, and they again reenter the gallbladder, and so

on in a vicious circle The same argument may be used for any of the other modes of transmission When we remove the gallbladder, therefore, we break into the center of the vicious circle, and thus it is demolished At this point in our discussion, the question is not as yet answered Does the gallbladder recover after drainage? But once more the proof of the pudding will be forthcoming, presently, as to comparative clinical results

### RELATIVE RISKS

In the larger clinics and among the more experienced surgeons, the relative risks of cholecystectomy and cholecystostomy no longer play a part in the discussion In fact, if cholecystostomy today is followed by a higher immediate mortality (in the hands of the expert surgeon), it is because this operation is nearly always reserved for the more desperate cases In severe acute appendicitis with extensive pathologic changes and abscess formation, appendectomy must often be deferred for a secondary operation, and it is just so in severe cholecystitis Generally speaking, however, the day is past when it is considered safer to omit than to commit as far as the removal of the gallbladder is concerned With the development of the technic of cholecystectomy and its perfection, and with the clinical experience of the possible sequelae of the conservative drainage operation, the radical procedure is now usually given the preference, except perhaps for the occasional operator In the hands of the average surgeon and in the average case, drainage is of course technically easier than removal, but the end-results are certainly not so satisfactory, and we have reserved the answer to the query propounded above to this point

It is the experience of the Lankenau clinic that of the patients with disease of the gallbladder and bile passages that come for reoperation, 81 per cent still have their gallbladders Therefore, if we arrange the causes of recurrence according to the type of operation, cholecystostomy would most certainly be in the class of improper procedures, while recurrence of symptoms after cholecystectomy would probably be due to imperfect operation in a certain percentage of cases, that is, to failure to remove a stone or stones at the primary operation, operative traumatism and the like The most important possible sequelae of the conservative operation are stones in the common duct and pancreatitis, by extension from the interstitial cholecystitis

Our views on the question of pancreatitis are too well known to need reemphasis at this time We still believe that interstitial pancreatitis results very frequently from lymphatic borne infection from the gallbladder, and we have said that removal of the gallbladder breaks the vicious circle Indeed, so persistent are the effects of prolonged chronic cholecystitis that pancreatic disease is often already incipient, if not established, at the primary operation, and we need not point out that pancreatitis is also a more or less potent cause of the recurrence of symptoms after cholecystectomy It is in these cases that the argument in favor of cholecystostomy is advanced, as the retained gallbladder is found useful for making a cholecystoduodenal anastomosis, but the fact that of the recurrences after operation only about 8 per cent are cholecystectomized patients, and that of these 12 per cent have symptoms of chronic pancreatitis, appears to us an additional and much better argument in favor of the removal of the organ, since with it the possibility of pancreatitis is removed in 88 per cent of the cases

### CONCLUSION

From the foregoing, therefore, it appears that cholecystectomy is the operation of choice It is as safe as cholecystostomy, it removes the cause of the vicious circle, the patient does not miss an organ which has probably been functionless or in which function has been much impaired for some time, and the chances of complete recovery or cure are greater, recurrences being less frequent and usually less serious than after cholecystostomy

1634 Walnut Street

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## ABSTRACT OF DISCUSSION

DR STANLEY REIMANN, Philadelphia As Dr Deaver says, it is known that the gallbladder concentrates bile by removing certain substances from the body To the clinician, the question of importance is, What does the gallbladder take out? Dr Mann of Rochester discovered accidentally that by injecting surgical solution of chlorinated soda intravenously it was possible to produce a cholecystitis Dr Sweet and I have repeated these experiments It is quite interesting to anesthetize a dog, expose the gallbladder, and inject a certain amount of this solution intravenously After a longer or shorter period, usually a shorter, the walls of the gallbladder become discolored, and soon the entire organ takes on a gangrenous hue In a few days, the organ is a gengrenous mass This means that the gallbladder has a specific function It seems to take up this solution, or, if we want to look at it in another way, the solution seems to have an elective affinity for the gallbladder This is an interesting physiologic discovery Some years ago, Dr Deaver used to say, when a patient came to him for gallbladder disease, that he had been to Carlsbad and had the stones removed on two or three occasions, and when he removed the gallbladder he would drop the stones into a dish to hear them click It has been impossible for some time for Americans to go to Carlsbad But something else has interested Dr Deaver, and that is the medical drainage of the gallbladder Patients are now coming to him because of the so-called medical drainage of the gallbladder Coupled with the function of the gallbladder is the larger one of liver function When there is an extensive cholecystitis, especially of long duration, the liver is bound to be affected Fortunately for us and for the patient, there is a large element of safety in the liver Unfortunately, in some cases the liver plays a large part in the postoperative course and in the restoration to health of the patient If we could get a physiologic method by which we could test the function of the liver, we would find many expressions of liver function The work of Ludwig and Heidenhauer stands out as the most important on this subject The liver is more complicated in its function than the kidney because the liver not only excretes bile but also plays a very important part in the general metabolism We can collect urine easily, but we cannot easily collect the bile These tests for liver function, which are important for good treatment of gallbladder disease, are much to be desired It is on these that the question of cholecystotomy versus cholecystectomy will hinge

DR J EARL ELSE, Portland, Ore Some of us who are inclined to study the pathologic side of things like to know why the gallbladder is subject to these conditions In 1912 and 1913, while in Vienna, I studied 1,000 gallbladders in adults and 100 in the new-born I found certain conditions that could not be cured by drainage One was the presence of Luschka's ducts Luschka, in 1870, reported the presence of so-called ducts in the diseased gallbladder which were never present in the normal gallbladder, and in these 1,000 cases we noted that in the gallbladders that had been subject to inflammation over a long period these ducts or glands had developed Sometimes these were true glands which extended into the mucosa and down into the muscularis and even under the serosa In one case, in which there had been an obstruction to the gallbladder, these ducts had developed until they were as large as my thumb, retaining fluid and secondary infection In these ducts we found bile pigments,

showing that the bile had extended up into the ducts In many we found evidences of infection Another thing we found was the so-called elbow deformity, in which, as the gallbladder develops, the upper end becomes turned over and constricted Within the last month I saw a patient, who had been treated two or three years by biliary drainage before the operation, who had one of these elbow deformities which was infected The infected material could not get out, and that is why there were no results from drainage, so called Another thing that tends to keep up infection of the gallbladder is the abnormality occasionally found in Heister's valves This is a spiral-like structure extending up into the cystic duct In one instance I found a Heister's valve larger than the cystic duct, so that there was a definite bulging in the cystic duct wall from this enlarged valve When we find these things we realize the truth of what Dr Deaver has been telling us for many years—that a chronically inflamed gallbladder should always be removed

DR FIORUS F LAWRENCE, Columbus, Ohio The thought occurs to me that we are placing too much dependence on the mechanical part of our treatment That is one of the reasons why there is so much difference of opinion as to the value of cholecystectomy and cholecystotomy It is also strange that five to one or more bile tract infections occur in women The majority of bile tract infections, if not all, follow as a result of a focus or foci in the lower part of the abdomen, from typhoid fever, appendicitis, pelvic infections, pararectal infections, etc In all probability these infections follow the lymphatics, along with the portal system, up to and through the liver, hence primary infection occurs not in the gallbladder but in the minute ducts and in the tributary structures of the liver substance itself To support that is the well known fact that we cannot make a culture of pathogenic bacteria from normal bile Then, another thing—if we cannot drain through the common duct an infection from out of the smaller ducts and the substance of the liver itself with the gallbladder present, how can we expect to drain it through the common duct after we remove the gallbladder? Not an infrequent finding is a septic serosa, unquestionably the result of bile tract infection How can you expect to cure the condition or even ameliorate it unless you drain the substance of the liver in its minutest ducts? The trouble is that much of our drainage is not drainage We cannot drain with a gauze dam It is impossible The only thing it brings out is serum, and that does no harm We want to get out the blood clot that makes the culture medium, and we cannot do it with gauze We must do it by means of a tube that will not close off by muscular contraction In my judgment, it requires more skill to perform a cholecystotomy and provide through drainage than to do a cholecystecotmy and close the wound I do not wonder that men get tired of drainage when they have to depend on assistants who are more or less indifferent I sometimes wish that there were not such a thing as drainage, but we cannot get away from it Certain ducts and certain substances of the liver are left after a cholecystotomy There may be a rupture or a perforation of a gangrenous, fibrotic gallbladder in which the cystic duct is already obliterated or has ceased to function

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**Present-Day Knowledge of Children** — Man's greatest interest is in children However, something radical must be done because as a group we are losing ground The anti-social element is increasing and the burden of the insane and feebleminded is becoming heavier The explanation is that we have mistaken symptoms for causes The cause of crime, insanity, and delinquency is not anything so simple as the movies, or alcohol The cause is to be sought and found in man's inherited tendencies, which do not fit his present world, and we have not tried efficiently to modify them We know better than ever before the nature of the child, the wide range of capacities in children and the necessity of adapting the training to the nature and ability of the individual child

We already know enough if put into practice to transform civilization within a generation or two—The Child, His Nature and His Needs, The Children's Foundation, 1924

# *Clinical Notes, Suggestions, and New Instruments*

## COMBINATION STETHOSCOPE

MYER N MOSS, M D, ST PAUL
Assistant in Obstetrics and Gynecology, University of Minnesota Medical School

The DeLee-Hillis obstetric stethoscope has its value in that it enables the operator, after he is scrubbed and the patient is prepared, to observe closely and follow the fetal heart during the course of the delivery In addition to this most important

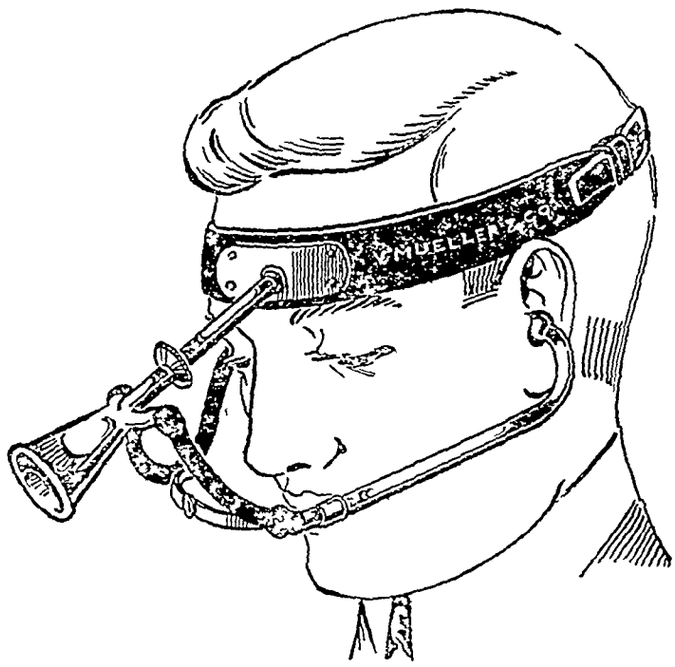


Fig 1 —Combination stethoscope as worn

feature, it is found that when it is used the heart tones are much louder and more distinct, so that they may be heard much earlier in gestation than with the ordinary stethoscope, and that if they are not heard in the last trimester, the fact gives almost a pathognomic sign of fetal death This, in part, is due to the fact that the rod leading from the mouthpiece

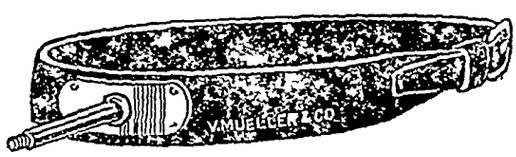


Fig 2 —Head piece, which may be folded

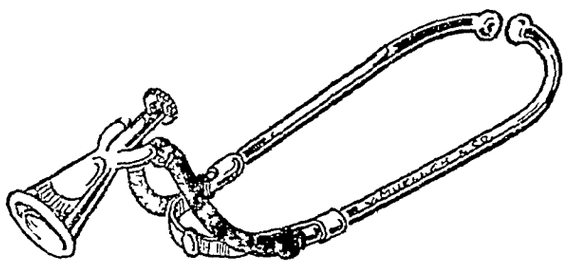

Fig 3 —Stethoscope detached

rests on the forehead of the operator, so that the impact of the fetal heart is also transmitted and is felt as well as heard

The combination stethoscope (Fig 1) is similar to the original head stethoscope, as devised by DeLee-Hillis, except for the projecting margin at the point of junction between the head piece and the stethoscope proper The head piece (Fig 2) is made of leather and may be folded and carried in the bag

or pocket conveniently Several head bands may be had, and one kept at each of the places where needed most The stethoscope (Fig 3) has a thumb-rest, and is not unlike the ordinary stethoscope, serving the same purpose just as efficiently

The advantages are the same as those afforded by the DeLee-Hillis head stethoscope, and it serves the combined purpose of a general and an obstetric stethoscope A single stethoscope with several head pieces will give the same uses as several head stethoscopes plus one general stethoscope, at a small cost above the price of one

336 Lowry Building

## STOMATITIS FOLLOWING THE INJECTION OF MERCURO CHROME 220 SOLUBLE IN A TUBERCULOUS SINUS

CHESTER C GUY, M D, CHICAGO

Bunten[1] recently reported salivation following the intravenous use of mercurochrome-220 soluble Because of the growing popularity of this preparation as an antiseptic and stimulant in the treatment of infected wounds, sinuses and various skin disorders, the following case report of stomatitis developing after the injection of mercurochrome into a tuberculous sinus may be of interest in emphasizing that its use is not entirely innocuous

### REPORT OF CASE

Mrs M. C, aged 33, entered the Cook County Hospital in the service of Dr F C Test, complaining of a tuberculous hip of fifteen years' duration Discharging sinuses in the region of the greater trochanter had been present eight years, and various solutions and pastes injected into the openings had resulted in no improvement These sinuses communicated, through the acetabulum, with an abscess cavity in the pelvis on the inner surface of the ilium March 22, 15 c c of a 1 per cent solution of mercurochrome-220 soluble was injected into the sinuses after irrigation with physiologic sodium chlorid solution This was repeated daily, and a marked decrease in the amount of the discharge was noted Improvement continued until April 10, when the patient began to complain of soreness in the gums, profuse salivation, loosening of the teeth, and diarrhea These symptoms increased rapidly in severity, and the next day the injections were stopped Two weeks later, the stomatitis and diarrhea had entirely disappeared, and they have not recurred since The patient gave no history of a previous similar affection of the mouth The length of time (nineteen days) before the appearance of symptoms of mercurial poisoning, and the two week period required before they had disappeared, are explainable on the slowness of the absorption of the mercury into the walls of the chronic abscess cavity

Cook County Hospital

## SUBCUTANEOUS EMPHYSEMA FOLLOWING TONSILLECTOMY

CHARLES ROSENBAUM M D NEW YORK

Subcutaneous emphysema following tonsillectomy is a rare complication, whose mechanism is ill understood at present In looking through the literature I found the cases that were reported gave no definite suggestion as to what the causes of the emphysema were

My case was that of a woman, aged 35, who had her tonsils removed by dissection and snare General anesthesia was used with suction spray apparatus The patient went under the anesthesia without difficulty, there was no coughing on going under or coming out There was little bleeding and no difficulty in removing the tonsils

Ten minutes after the operation, a marked swelling was noticed on the eyelids, face and neck of the right side and also the neck of the left side On feeling this swelling, I noted a distinct egg-shell crackling After the patient had come out of the anesthesia she called my attention to the fact that she could feel the crackling in her neck Beyond this she experienced no discomfort, her breathing never being embarrassed at any time The swelling completely disappeared in three days The tonsil site healed in the usual time This case is presented both on account of its rarity and because the production of the emphysema is not understood

107 West One Hundred and Twenty-Third Street

[1] Bunten J C Salivation Due to Intravenous Use of Mercurochrome, J A M A 82 1443 (May 3) 1924

## A CASE OF POISONING DUE TO CAMPHOR LINIMENT

MILTON C LANG M D BALTIMORE
Physician to the Maryland Penitentiary

E K a man aged 44, a prisoner at the Maryland Penitentiary, while in his cell called for a dose of castor oil By mistake he was given an ounce of camphor liniment by an attendant, which he drank unknowingly at 9 p m, April 3, 1924 He was not seen again until 10 45 p m, when he was found in a convulsion of epileptiform character, which lasted six minutes He then recovered consciousness, and complained of weakness, inability to stand up, nausea, nervousness, severe headache and pain in the eyes His condition rapidly grew worse, and he became semidelirious Although no definite convulsions were noted, there were frequent twitching movements of the lower extremities The patient was restless, his skin was pale and clammy, the pulse regular but rapid, the blood pressure was 120 systolic, and 75 diastolic The respirations were loud, rapid and shallow, but were frequently interrupted by deep gasps

Therapy consisted of gastric lavage The return flow smelled strongly of camphor, and small droplets of liniment floated on the surface of the water Several ounces of magnesium sulphate were left in the stomach

In the morning the patient was much better, complaining only of slight nausea He remembered nothing after taking the liniment, and was surprised to find himself in the prison hospital

His temperature was normal throughout, except at 4 p m, April 4, when it was 99 2 F His pulse rapidly came down to normal

The patient was discharged from the hospital, April 6, and no further ill effects were noted.

# New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION W A PUCKNER, SECRETARY

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SATURDAY, JUNE 28, 1924

## MALARIA CONTROL IN PALESTINE

It no longer requires a sustained argument to support the thesis that malaria is one of the endemic diseases that must have played an important part in the progress of certain nations and thus in the history of the world Today it is malaria control, rather than the peculiarities of the disease itself, that excites interest in a popular way Even the man in the street has come to know that such enterprises as the building of the Panama Canal have been rendered effectively possible as a result of the modern discoveries that relate to malaria and yellow fever He probably will not, however, realize how comparatively recent is all the information that has served to dispel the old medical ignorance about malaria It was in 1880 that the French army surgeon Laveran discovered the parasitic micro-organism that he proved to be the true cause of malaria fevers Not until 1898 did Sir Ronald Ross demonstrate conclusively that the malarial parasite is absolutely dependent on certain species of mosquito for its transmission from man to man The curative treatment of malaria through the use of quinin and other drugs of course has a longer history The efforts to eradicate it on the basis of the newer fundamental information have been confined to the present century So long as thousands of persons still are "annually sacrificed on the altar of the malarial parasite," the campaigns for relief from such a situation must not be abated The problem is one for communities or governments rather than for the individual Ross, indeed, has maintained that malaria is essentially a political disease—one that affects the welfare of whole countries, and the prevention of it should be an important branch of public administration For the state as for the individual, Ross contends, health is the first postulate of prosperity, and prosperity should be the first object of scientific government

Theoretically, malaria might be eradicated in two quite different ways If the mosquito were effectively exterminated or excluded from human relations, the parasites would lack a vector and their spread would thus cease Or, if the malarial parasites could be destroyed in every human host by the use of quinin or its substitutes, the disease would cease with the disappearance of the primary etiologic agent Neither of these procedures is completely feasible under present-day conditions, and even if they were humanly possible, we should be promptly admonished to count the cost Even human life has only a limited economic value, with which budgets must reckon As the malarial parasite has two hosts, man and the mosquito, it has been found more practicable in some cases to alternate or even combine the place of attack This means mosquito control in the one case and, in the other, wholesale persistent treatment with quinin for passive carriers as well as for active patients

Of late, much attention has been devoted by the U S Public Health Service, the International Health Board and other agencies to the economic phases of malaria control The possibility of control is abundantly demonstrated and admitted The foremost question when larger areas are involved is whether the cost of malaria control will be less than the economic tax imposed by the existence of the disease This is particularly important in small areas where the economic conditions offer barriers to large expenditures In other cases, ignorance and prejudice may become inhibitory factors against the efforts toward sanitary progress Malaria is the most prevalent and economically the most important disease in Palestine, which is at present experiencing a renaissance of civilizing influences Working with the Hadassah Medical Unit at Jerusalem, Kligler [1] has been engaged in a study of the possibilities of malaria control with limited means where large scale operations are at present impossible A few typical areas were selected It was early recognized that an essential element in the control demonstration must be the attack on the parasites in man In order to reduce the incidence of malaria, it was first of all necessary to reduce relapses of chronic malaria patients and eliminate parasite carriers Consequently, the first step was to examine the entire population in order to detect the carriers, and the second to systematize and regulate the treatment All carriers received 2 gm of quinin by mouth daily for five days, and, after an interval of two days, to permit blood examinations, ⅔ gm was given daily, for two months Relapses were treated as new infections, and anemic patients received additional therapy with iron and arsenic

The greatest emphasis was laid, however, on measures against mosquito larvae, and this work was facilitated by educational propaganda Although the same methods cannot be applied alike in the places where water is overabundant as where adequate drainage has been perfected, Kligler believes that malaria control is clearly feasible with relatively small expenditures in some of the worst areas in Palestine, and that there is consequently every reason to expect that it will be likewise applicable elsewhere in that country Drainage

1 Kligler, I J Malaria Control Demonstrations in Palestine, I, Malaria Control and Its Cost, Am J Trop Dis 4 139 (March) 1924

and proper control of irrigation are of the foremost importance Intermittence of irrigation has proved to be very advantageous when it can be properly effected Constant supervision is essential, for no amount of sanitation will always entirely overcome human ignorance or negligence The per capita cost may not exceed $2 50 for the first year, and should subsequently become much lower It is gratifying to learn that the results achieved in the communities involved justify the continuance and extension of the demonstrations to other parts of Palestine They may become models for other localities where discouragement has thus far beset the promoters of preventive medicine

## MILK CONSUMPTION IN THE UNITED STATES

A student of nutrition [1] has recently reminded us that the history of science warns against the dangers of dogmatism in the presence of so much that remains unknown or unapproachable When experience and science seem to be in conflict, it is particularly well to keep an open mind The science of nutrition is in the midst of a continual evolution of facts and development of truth The propagandist employs striking slogans or euphonious catch phrases in order to promote his aims Publicity promoted in this way may be highly appropriate and effective, no one, for instance, would interpose objection to the widely heralded admonition of "safety first" This does not apply without exception, however, to all the dogmatic assertions that are purveyed flamboyantly to the public Indeed, THE JOURNAL has criticized some of the current advice [2] that is supposedly directed through nation-wide advertising in the interest of the public health or the nutritive welfare of our population

The use of milk and dairy products is being promoted by many agencies in this country The recommendation of "a quart a day for every child, a pint for every adult," has come to have a familiar ring, it has been urged since the days of the World War as not too high an ideal [3] The unusual nutritive virtues of milk have become familiar not only to "experts" in nutrition but even to every school child in these days when food values are a topic of conversation in the school and home, and when the popular magazines feature calories and vitamins in every issue It may not be amiss, however, to remind the public again and again that milk is unique in furnishing more calcium than any other common food This is accordingly one of the standpoints from which milk may be especially evaluated as a dietary essential The studies of Sherman and Hawley [4] of Columbia University showed significantly that on an ordinary mixed diet containing daily 750 gm of milk and furnishing a total of from 0 74 to 1 02 gm of calcium a day, children from 3 to 13 years of age stored from 0 15 to 0 62 gm of calcium a day, the amount being approximately proportional to the size of the child and averaging 0 01 gm of calcium per kilogram of body weight, daily When the daily allowance of milk was increased to 1,000 gm, the storage of calcium was increased The results obtained indicate that optimal storage of calcium is made when the diet contains 1 quart of milk a day for each child This, with a normal allowance of other foods, will usually mean a daily intake of at least 1 gm of calcium for the growing child According to Sherman, it would be best to maintain this level of milk intake up to at least the age of 12 or 14 years

In contemplation of advice that seems at length to be based on dependable physiologic information, one is impelled to inquire whether the dictum of "a quart of milk daily" would encounter obstacles in the direction of available supply Smith [5] regards the possibilities of expansion of the dairy industry as almost unlimited The world, he has assured us, may have ten or twenty times as much milk as it now has, without any serious reduction of any other food supply This apparent contradiction comes from the fact that the keeping of cattle is almost a necessary accompaniment of intensification of agriculture The total production of milk in the United States has been variously estimated at from 0 8 to 1 15 quarts for each person, daily

How far is the American people from realizing the ideal daily milk consumption that has just been defended? In answer to this question, statistics have recently been compiled by Haven Emerson [6] According to the Department of Agriculture, in 1900 the nonfarming, that is, the urban and suburban, population of the United States purchased about 0 5 pint of milk per capita daily In 1920 the amount had risen, according to the same authority, to 0 9 pint, daily The reports compiled by other organizations interested in public health indicate that the daily per capita consumption varies widely in the larger cities of the country Several municipalities in various parts of the union report a figure above one pint a day, a larger number indicate much smaller consumption Geographic conditions do not seem to exert a decisive influence Thus Detroit, with its high record of 1 3 pints, is approached by Springfield, Mass, with 1 1 pints, while the neighboring city of Worcester reports only 0 39 pint An almost identical consumption of approximately 0 45 pint is given for New York, Indianapolis, Dallas, Norfolk, Omaha, Savannah and San Antonio Fifty-two large cities not here included reported a daily milk consumption of from 0 5 to 0 99 pint per capita

1 Mendel, L. B Nutrition, New Haven Yale University Press 1923

2 The "Eat More" Campaigns editorial J A M A 82 718 (March 1) 1924

3 Food and the War U S Food Administration Boston Houghton Mifflin Company 1918

4 Sherman H C and Hawley Edith Calcium and Phosphorus Metabolism in Childhood J Biol Chem 52 373 (Aug) 1922

5 Smith J R The World's Food Resources New York Henry Holt & Co 1919

6 Emerson Haven Per Capita Milk Consumption from the Point of View of the Public Health Officer Am. J Pub Health 14 291 (April) 1924

These figures will suffice to lend some assurance that there still is abundant occasion to increase the use of milk, and large opportunity for the promotion of public health policies in this direction It is satisfying to have the figures, and encouraging to believe that the current propaganda is well justified

## BLOOD PRESSURE IN EARLY LIFE

During recent years, no medical diagnostic procedure has received such thorough and systematic investigation as has been accorded to the blood pressure and its variations under different conditions and in different persons This is due partly to the fact that estimation of the blood pressure is not, as a rule, a difficult procedure, and partly also to the fact that material for such studies is always available The exact facts have not, however, been assembled and sufficiently established, even for the normal, let alone for a vast number of pathologic conditions It is well, therefore, to have available the results of a statistical study of blood pressure in early life, such as that made in the department of applied statistics in the University of London [1] The plan of the investigators included a study of the behavior of blood pressure during puberty and adolescence, ascertaining the normal range of systolic, diastolic and pulse pressures at the ages from 5 to 40, and examining the interrelation between these pressures, and their correlation with the various activities of life Measurements were carried out on 1,633 persons, including 1,323 boys from various schools, forty-two workmen, and 154 male and 114 female college students As in all medical investigations, it was first necessary to establish a standardized technic The investigators were promptly convinced of the great superiority of the auscultatory over the palpatory method of determining systolic pressure The studies included, as well, a survey of the literature on the various points to which special attention was given The standard technic finally adopted was, briefly, as follows

Subject in sitting posture, with left arm resting relaxed on table in front, palm upward, use of sphygmomanometer with standard 12 centimeter armlet applied round left arm above elbow, end of stethoscope being applied by elastic band (not too tightly) to bend of elbow Readings to be taken as pressure is released, systolic pressure at first and diastolic at fourth point (or "fifth" when fourth is not distinguishable) Where possible, morning readings are advocated

The investigators found that the changes which occur in pressure and pulse rate on rising from a sitting to a standing posture vary widely in different persons, the average being a rise of 3 mm in the systolic and 10 mm in the diastolic pressure, and a rise of 7 5 beats a minute in the pulse rate, with a fall of 7 mm in the pulse pressure In females there is, in general, no rise in the systolic pressure, and a rise in the diastolic averages of only 5 mm It did not seem possible to interpret these reactions in any way as an index of the individual's physical fitness A study of the changing curves of blood pressure with increasing age indicates that, up to 11 years, the mean systolic pressure rises uniformly with age, during adolescence, the gradient is temporarily increased and the pressure reaches a uniform adult level at about 18 years of age, with no further tendency to rise up to the age of 35 or 40 The diastolic pressure rises more or less uniformly until adolescence, and then more slowly to the age of 17, when it rises rapidly to its maximum about the age of 20 The pulse pressure therefore rises uniformly to 15, during adolescence, rises rapidly to 16 or 18 years of age, rapidly falls to its original level about 20, and then slowly increases up to 40 This is taken as an indication of the fact that the heart is performing more work per unit weight of cardiac muscle during adolescence than at any preceding or subsequent period of life up to the age of 40

It was found that regular physical exercise tends to keep the diastolic pressure at a lower level by reducing peripheral resistance, thereby rendering the heart more efficient The psychologic effect on blood pressure is indicated by the fact that average pressures were noticeably higher in schools in which strict discipline was maintained than in those institutions in which the discipline was more easy-going

Among other by-products of this systematic study was a determination of the relationship of previous infections to changes in blood pressure The accounts of previous infection with scarlet fever, diphtheria, measles, whooping cough and chickenpox were obtained in the case of 350 boys As a result, the British statisticians write that it cannot be said that there is any conclusive evidence from these figures of any permanent effect of the exanthems on the systolic pressure in after life

There still remain many factors related to the blood pressure that require accurate determination Studies of racial influences and climatic conditions indicate that these may have a bearing in establishing normal figures for certain groups If a standard technic, subject only to the error of individual determinations, can be generally accepted, the near future may show this diagnostic procedure to have a greater value than is now accorded it

1 Stocks, Percy, and Karn, M N Blood Pressure in Early Life, London, Cambridge University Press, 1924

**Surgical Treatment of Certain Puerperal Infections**—Puerperal infection, in brief, is simple wound infection, and should be treated on general surgical principles The puerperal state confers no immunity but rather the reverse All surgeons recognize the gravity of a neglected palmar abscess, or a wound received in operating or dissecting Ear specialists long ago learned the vital importance of cleaning out, with ligation if necessary, the thrombosed internal jugular vein in case of lateral sinus infection due to disease of the mastoid, and there is certainly a striking similarity between an infected thrombus in the jugular and the same in the veins of the pelvis—J F Baldwin *Am J Obst & Gynec* **5** 511 (May) 1923

# Current Comment

## RENAL TISSUE AND BLOOD PRESSURE

Since the days of Richard Bright, the relation between renal disease and arterial blood pressure has been a subject of discussion There are numerous indications that structural changes in the kidneys cannot be regarded as the sole cause of arterial hypertension The latter condition often exists without any demonstrable anatomic renal defects, and, conversely, kidney impairment is not invariably attended with augmentation of the blood pressure Sometimes, however, it is argued that examination of the urine or even histologic observation of the kidneys at necropsy may not always reveal a renal defect, and thus the discussion continues from one decade to another One might expect that if the gradual rise of blood pressure frequently noted in the course of chronic glomerulonephritis were due to progressive atrophy of renal tissue, as has been asserted,[1] experimental reduction of the kidney mass to the point of actual insufficiency for the usual excretory functions would bring about hypertension Attempts to demonstrate such an outcome in animals have failed in the hands of Anderson[2] at the University of Minnesota Removal or destruction of as much as 70 per cent of the kidney tissue of rabbits did not produce hypertension, even when prolonged renal insufficiency resulted By inference, then, Anderson concludes, the atrophy of renal tissue in chronic glomerulonephritis is not the cause of the accompanying hypertension

## RADIATION AND THE BACTERICIDAL POWER OF THE BLOOD

However mystifying the physiologic action of sunlight and other kinds of radiation on the human organism may be, there can no longer be any doubt that it is real and sometimes unexpectedly potent There is an Italian proverb that all diseases come in the dark and get cured in the sun While this is an exaggeration of the facts of pathology, it embodies an element of hygienic truth In cloudy climates, the stimulating effect of sunlight on the feeling of comfort and happiness is familiar, no less so is the tiring effect of continual tropical sunlight Compared with England, for example, the Alps offer the advantage of far more hours of sunlight and a sun richer in ultraviolet rays In these Swiss highlands, the beneficial effects of exposing the body to open air and sunlight are well known Surgical tuberculosis and open wounds respond favorably to these environmental influences A somewhat comparable influence apparently can be exerted by exposure to artificial sources of radiation, as, for example, in the effects of the Finsen light treatment on lupus The explanation of the curative action in such instances, in which micro-organisms undoubtedly play a part in the pathogenesis of the disease, has not been easy to find In the Finsen light treatment of lupus, the infecting tubercle bacilli are not killed directly, for the active rays do not penetrate sufficiently to effect this Hence, it has been assumed that the radiation acts as an irritant to the tissues, resulting in congestion, increased outflow of immunizing lymph, and increased phagocytosis Tests recently made at the National Institute for Medical Research[1] in London tend to show that any "insult" to the skin, whether produced by ultraviolet and visible rays or by dark heat or by blistering agents, provokes or increases the defensive powers of the body Its immunizing properties are enhanced This was observed in bactericidal tests made to determine whether the serum or the leukocytes or both acquire increased power to kill such micro-organisms as staphylococci when man and animals are exposed to radiation and other influences that affect the cutaneous surfaces and produce inflammatory effects there The London pathologists believe that the absorption into the blood of the products of tissue damage, or the enhanced absorption of normal tissue products produced by such damage and the consequent erythema and edema, may be a "natural excitant" of immunizing reactions, such as are represented by the hemobactericidal power demonstrated by them

## WHERE TUBERCULOSIS IS INCREASING

Before the World War, it seemed likely that the continued combat against tuberculosis would presently find some degree of fruition in a noticeable reduction of the ravages of this disease In Germany, for example, the death rate from all forms of tuberculosis fell from 219 per hundred thousand in 1899 to 142 in 1914, a decrease of 35 per cent The unfortunate conditions brought about by the great conflict have served to afford an utterly undesired illustration of an increase in the incidence of this disease During 1914-1919, the death rate mounted to 212 per hundred thousand There was a considerable reduction in Germany, as elsewhere, following the epidemics of influenza in 1920 and 1921, but the return to a high proportion of deaths has again become evident Usually an attempt has been made to ascertain the causes of changing death rates under conditions of improvement, so that the studies would be expected to show what untoward factors had been eliminated and what beneficial influences had been introduced into the life of the population concerned In the case of Germany, an unexpected opportunity seems to be presented for attempting to ascertain what new detrimental features in the national life may be responsible for the recrudescence of tuberculosis in its former magnitude Haven Emerson,[2] who has made a personal inspection, which furnished the data just quoted, believes that there are being reproduced in Germany now, as there were between 1916 and 1920, conditions favoring a prevalence of tuberculosis similar to that of a generation ago While admitting that shortage of proper food may be an important factor in affecting the susceptibility to infection, Emerson does not place

1 Jawein G Berl klin Wchnschr 57 869 1920
2 Anderson, H C The Relation of Blood Pressure to the Amount of Renal Tissue J Exper Med 39 707 (May) 1924

1 Colebrook L Eidinow A and Hill L The Effect of Radiation on the Bactericidal Power of the Blood, Brit J Exper Path 5 94 (April) 1924
2 Emerson Haven Tuberculosis in Germany Am Rev Tuberc 9 191 (May) 1924

the dietary situation in the first place of responsibility for what has occurred What is apparent with more convincing evidence in Germany, he says, is the intimacy, continuity and massiveness of infection of both children and adults, made possible and almost inevitable by the conditions of housing and the breakdown of many of the facilities and resources for the segregation of the sick tuberculosis patients from well members of the family It is true that food conditions have been distressing Despite such characteristic evidences of unfavorable opportunities for adequate nutrition, other factors receive the foremost blame Germany, Emerson concludes, is presenting now "a picture of acute spread of tuberculosis, due primarily to uncontrollable insanitary conditions of housing and lack of means to separate the sick from the well"

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC)

## CALIFORNIA

**"Poor Whittier"**—At a recent local election, the people of Whittier repudiated the terms of an agreement by which Simon J Murphy built and gave to the community the Murphy Memorial Hospital, a 100 bed hospital which cost approximately $400,000 *California and Western Medicine* states that the osteopatns, chiropractors, Eddyites and other groups one would expect to see cooperating in any attack on scientific medicine and adequate education as a qualification for practitioners, succeeded in carrying their initiative, and that the hospital will now probably become a place for cultists to treat their patients

**Quack Jailed**—The state board of medical examiners' special agent, Carter, recently arrested "Dr Rex H W Albrextondare," whose real name, it is reported, is Henry V K Alexandere, for practicing medicine without a license Alexandere was detained in connection with an investigation of three mysterious deaths, and was also charged, it is said, with obtaining $37,000 from a widow by alleged fraudulent methods Judge West of Los Angeles, in whose court the trial for violation of the medical practice act took place, sentenced the accused to 180 days in jail and to pay a fine of $600, and expressed his regret from the bench that the statutes restrained him from passing a larger sentence In 1918, Alexandere was fined $100 in San Francisco for violation of the medical practice act, and a short time later in Los Angeles was arrested for obstruction of the draft law

## CONNECTICUT

**Personal**—Dr Charles J Bartlett, New Haver, director of the Bureau of Laboratories of the State Department of Health for the last seven years, has resigned, and Mr P E Bransfield has been appointed acting director The laboratory will be moved from New Haven to Hartford in the near future

## DELAWARE

**Board of Health Election**—The recently appointed board of health of Dover organized, May 27, by reelecting Dr L August H Bishop, president, Dr Edwin S Anderson, vice president, and Herman C Taylor, secretary-treasurer This is the twentieth consecutive year that Mr Taylor has been secretary of the board

## FLORIDA

**Personal**—Dr Ralph E Barnes of the Florida Public Health Association was elected president of the Southern Tuberculosis Association at a meeting held at Atlanta, Ga, May 10

## GEORGIA

**Physician Arrested**—Dr Leighton Brown of Macon and Atlanta was arrested recently by a narcotic agent and city detectives of Atlanta while administering morphin to a drug addict, it is reported Dr Brown was sentenced in 1922 to nine months' imprisonment for violation of the Harrison Narcotic Law (THE JOURNAL, Nov 4, 1922, p 1615)

## ILLINOIS

**Personal**—Dr William J Whiteaker, Harrisburg, has been appointed physician of Saline County succeeding Dr L McCormack——Dr Freeman J Scott, Rock Falls, has been appointed city health officer succeeding Dr Stephen A Allen ——Dr Frank N Wells, Pittsfield, has been elected physician of Pike County——Dr William E Constant, for the past few years in charge of the St Charles City Hospital, has resigned——Dr Jasper M Adams, Canton, has been appointed county physician——A complimentary dinner was given to Drs John H Gordon and David R Wilkins, both of Pocahontas, by members of the Bond County Medical Society, June 27 Dr Gordon is 81 years of age and Dr Wilkins 69 ——At the convocation of the University of Wisconsin, June 23, Dr Frank Billings, Chicago, was awarded the degree of Sc D

### Chicago

**Monument to Pasteur**—Plans for the erection of a monument in one of Chicago's parks to the memory of Pasteur have been deferred until the autumn Dr Frank Billings is head of the executive committee of the campaign

**Dr McCormick Released from Elgin**—Dr Charles McCormick, head of a medical college bearing his name (THE JOURNAL, May 17, p 1616) at 3736 South Michigan Avenue, was remanded to the Elgin State Hospital for the Insane, May 27, by Judge Lindsay, who denied a writ of habeas corpus, but was released from the hospital, June 3, in the Elgin court on a writ of habeas corpus, it is reported

## INDIANA

**State Board Arrests Illegal Practitioner**—J T Mehrlich, 20 East Eighteenth Street, Indianapolis, recently pleaded guilty in Judge Wilmeth's court to practicing medicine without a license, and was fined $25 and costs Mehrlich was arrested on a warrant sworn to by the secretary of the Indiana State Board of Medical Registration and Examination (THE JOURNAL, June 14, p 1977)

**Dr Wishard Honored**—Physicians of Indianapolis gave a testimonial dinner to Dr William N Wishard, professor of genito-urinary surgery at the Indiana University School of Medicine, June 13, on the fiftieth anniversary of his graduation in medicine A portrait of Dr Wishard, which will hang in the Indiana University School of Medicine, was unveiled by Dr David Ross The university recently conferred the degree of doctor of laws on Dr Wishard

**Gift to Medical School**—A donation of $75,000 has been made to Indiana University, Indianapolis, by Mr and Mrs William Coleman for the school of medicine The gift is in the form of a memorial to their daughter and will be used to endow the chairs of ophthalmology, surgery and gynecology Under the provisions of the gift, the income from the entire sum will be divided equally among Drs Frank A Morrison, John H Oliver and Orange G Pfaff, respectively, presidents of the above named chairs Other gifts of Mr and Mrs Coleman are $25,000 to the Methodist Hospital and $10,000 to the Florence Crittenton Hospital

## IOWA

**Personal**—Dr Russell C Doolittle, Des Moines, is now physician in charge at "The Retreat" sanatorium, Des Moines, Dr Julia F Hill will continue as assistant physician Dr Gershom H Hill has disposed of his interest in "The Retreat" to Dr John C Doolittle

**Society News**—At a meeting of the Iowa Clinical Medical Society, May 31, Dr Charles A Waterbury, Waterloo, was elected president, Dr Frederick G Murray, Cedar Rapids, vice president, Dr Russell C Doolittle, Des Moines, secretary-treasurer

## KANSAS

**Dr Uhls Found Guilty**—Dr Kenneth B Uhls, Overland Park, was found guilty, it is reported, of murder in the second degree in connection with the death of W E Gibbs,

owner of stock in a sanatorium operated by Dr Uhls The prosecution's case, it is said, was based on circumstantial evidence during a two-day period prior to December 28, during which time the crime was committed——Dr Uhls was acquitted by a jury in the district court, May 13, of a charge of being the instigator of a holdup in January

## KENTUCKY

**Physician Fined**—Dr Jesse S Bean, Louisville, pleaded guilty, it is reported, to violation of the antinarcotic act in Judge Moorman's court recently, and was fined $1,000

**Personal**—At the recent annual meeting of the Kentucky Tuberculosis Association, Dr Jefferson L Atkinson, Campbellsville, was elected first vice president, and Dr James S Lock, Barbourville, executive secretary——Dr Arthur T McCormack, Louisville, was elected a director of the Kentucky Public Health Association at a meeting in Louisville, May 17

**University News**—Announcement has been made of the gift by the Carnegie Corporation of $20,000, annually for two years, to the University of Louisville Medical Department, while plans are being perfected for raising an endowment fund The added income will be used largely in developing the department of pediatrics on an academic basis and establishing an academic teacher in that department——The annual alumni banquet at the Pendennis Club, June 3, was attended by 322 Louisville graduates from twenty states President A D Harmon of Transylvania University and Prof Haven Emerson of Columbia University gave addresses ——Dr Richard Buetner of the University of Leyden, formerly of the Rockfeller Institute, has been appointed assistant professor of pharmacology in the University of Louisville Medical Department

## MARYLAND

**Gift to Church Home and Infirmary**—By the will of Frank P Woodside, the Church Home and Infirmary, Baltimore, has been given $50,000 worth of Baltimore city 4 per cent stock The legacy is a memorial to Mr Woodside's parents and is to be used to provide a room for free patients

**Personal**—Dr Lilian Welsh, Baltimore, for thirty years professor of physiology and hygiene at Gaucher College, was given the honorary degree of LL D at the recent commencement on the occasion of her retirement from teaching Dr Welsh becomes professor emeritus——Dr Ernest Carroll Faust, in charge of the division of parasitology, Peking Union Medical College, who has exchanged chairs in helminthology during the year 1923-1924 with Dr William W Cort, Johns Hopkins University School of Hygiene and Public Health, will return to Peking, July 31, to continue investigations of the biology and epidemiology of parasitic diseases in China

## MASSACHUSETTS

**Chiropractor Arrested.**—M B Du Lysle, chiropractor Marlboro, *was sentenced to two months in the House of* Correction by the superior criminal court, May 8, for practicing medicine without a license, it is reported

**State Medical Meeting**—At the one hundred and forty-third annual meeting of the Massachusetts Medical Society at Swampscott, June 6-7, Dr Enos H Bigelow, Framingham, was elected president, Dr Ralph W Jackson, Fall River, vice president, Dr Walter L Burrage, Brookline, secretary, Dr Arthur K Stone, Framingham, treasurer, Dr Edwin H Brigham, Brookline, librarian emeritus, and Dr David Cheever, Boston, orator The president, secretary and treasurer were reelected

## MICHIGAN

**Chiropractors Held**—*Five chiropractors and a naturopath* were arrested by the police of Lansing recently and charged with practicing medicine without a license They were C A Turner Mrs D E Turner, C D Desmore, Leon Foster, Floyd Welcher and H J Ketchum They were released on personal recognizance, their cases being continued——M H Beebe, Grand Rapids, a chiropractor, recently fined $25 and costs for using the title "Doctor," refused to pay the fine and was given thirty days in jail——W W Erdman, Big Rapids, chiropractor, convicted, recently, of practicing medicine without a license was sentenced by Judge Barton to serve three months in jail and to pay a fine of $200 the provision being made that Erdman continue to serve time not to exceed six months until the fine is paid

## MINNESOTA

**Health Touring Car**—*The state public health association* has recently purchased a special automobile equipped as a clinic and demonstration car to tour the state in the campaign for the prevention of disease and preservation of health Dr O C Lockhead, field secretary of the association, will be in charge of the car

**Hospital News**—The Elk River Hospital has suspended operations because of lack of patronage——Work has been resumed on the building of the Ashton Memorial Hospital at Pipestone——The new Wilder Dispensary Building, erected in St Paul by the Amherst Wilder Charity at a cost of $200 000, is ready for occupancy It is a four-story brick and stone structure

## MISSOURI

**Personal**—Dr James W Boger, Sedalia, county health officer of Pettis County, has resigned——Drs Fred W Bailey and William Engelbach, both of the St Louis University School of Medicine and on the staff of the St John's Hospital, have tendered their resignations from the faculty and hospital

**Department of Medicine on Full-Time Basis**—According to announcement made by Dean Loeb at the commencement exercises, *the St Mary's group of hospitals, comprising 600* beds, of which 200 are free, has by agreement become the University Hospital of the St Louis University School of Medicine, the university having full control of the medical and educational activities The first step in the complete *establishment of this relationship has been the organization* of the department of medicine on a full-time basis In addition to the instructors who have been previously conducting the department the following full-time physicians have been appointed Ralph A Kinsella, professor of medicine and director of the department, formerly associate professor and acting head of the medical department of Washington University, Goronwy O Broun, associate professor of medicine, formerly instructor in medicine at Harvard University and resident physician at the Boston City Hospital, Charles H Hitchcock, assistant professor of medicine, Alfred P Briggs, instructor in medicine, and Octavio Garcia, instructor in medicine

## NEW JERSEY

**Personal**—Dr Charles B P Kelley, Jersey City, president of the Hudson County Medical Society, has been appointed a member of the state board of medical examiners, to fill the vacancy caused by the death of Dr John J Mooney and for the full term, beginning July 1

## NEW YORK

**University Fellowship**—The Cornell University Traveling Fellowship in Medicine for the year 1924-1925 has been awarded to Dr Arthur M Master who obtained his M D degree from that institution in 1921 This fellowship was designed to aid men and women who desire to continue the study of medicine abroad, and is available for physicians who have graduated from Cornell within ten years and men and women graduated from other medical schools within ten years and who are now attached to the instructing staff of Cornell University This year the scholarship amounts to $2,000

**State Health Department**—In addition to its monthly publications, the *Health News, Public Health Nurses' Bulletin* and *Health Officers Bulletin* the New York State Department of Health is publishing a *Quarterly*, the April issue of which has just appeared, giving in brief a review of the department for 1923 A new feature of the work of the division of public health education is the radio talks This service continued throughout the year, a health talk being given every Friday evening with two exceptions Each talk was released for the newspapers of the state on the Saturday following the broadcast The number of clippings received indicate that 10 per cent more papers used the health talks during 1923 than during the previous year, 44 per cent of all papers using the talks during 1923 Additional news letters on health topics sent to the newspapers were used by 46 per cent of the papers to which they were sent The most gratifying feature of the year was the reduction in the morbidity and mortality from diphtheria The mortality for the first time dropped below 10 per hundred thousand population The fatality rate, 6 4 per cent was 0 4 per cent below the lowest previous record An important factor contributing to the reduced mortality was undoubtedly the educational effect on the laity of the toxin-antitoxin campaigns and the education of physicians incidental to the investigation of fatal cases

### New York City

**Postgraduate Course in Gastro-Enterology.**—A four weeks' graduate course in gastro-enterology will be given by Columbia University at Vanderbilt Clinic, from July 2-30, and a similar course, from August 1 to 27 Dr John L Kantor will be the instructor

**Seaside Clinic Opens**—The Seaside Clinic of the department of health at Coney Island was opened, June 17, by formal exercises in which the mayor and Health Commissioner Frank J Monaghan took part This clinic has been so popular it has been decided to establish similar ones at Rockaway Beach and South Beach, Staten Island

**Committee on Periodic Examinations**—At the stated meeting of the Medical Society of the County of New York, May 26, a resolution was passed calling for the appointment of a committee through which the society may formulate a plan to promote periodic health examinations through the agency of the general practitioner The president appointed a committee of eleven members, with Dr Orrin S Wightman as chairman

**Cornell Commencement**—The twenty-sixth annual commencement of Cornell University Medical College was held, June 11 President Livingston Farrand conferred the degree of Doctor of Medicine on fifty-eight candidates The John Metcalf Polk prize of $300 was awarded to Miss Evelyn Holt of Summit, N J She has been appointed an intern in the New York Hospital, being the first woman to receive this appointment

**"Dr" Giovannantonio Jailed**—Judge Bleakley of the county court sentenced J Di Giovannantonio of Ossining to six months in the Westchester penitentiary, on his plea of guilty to a charge of practicing medicine without a license Giovannantonio claimed that he is a graduate of an Italian medical school and a former Italian army surgeon He produced a certificate bearing the initials "D C," which he claimed was obtained from an institution in Chicago

**Internships in Contagious Disease Hospitals**—The public health committee of the New York Academy of Medicine has passed a resolution to the effect that all interns in general hospitals should have a brief internship in a hospital for contagious diseases The city department of health will cooperate with the general hospitals by making provision for such internships in the city contagious hospitals The resolution further states that the committee views with favor the opportunities afforded at Willard Parker Hospital whereby nurses receive special training in the care of communicable diseases

**Clinical Stomatology Journal and Clinic**—Announcement has been made of a new journal, the *Review of Clinical Stomatology*, a monthly devoted to the advancement of knowledge of diseases of the mouth and teeth, and a supplement to the *Journal of Ophthalmology, Otology and Laryngology* The staff comprises Alfred Asgis, D D S, New York City, and Dr George W Mackenzie, Philadelphia, editors, and Dr William G Shemeley, Philadelphia, and Walter B Veazie, Ph D, University of Colorado, associate editors—— The Midtown Hospital, New York City, has provided the necessary facilities for clinics for the treatment of pyorrhea, the extraction of teeth, and for oral surgery

### NORTH CAROLINA

**License to Practice Surrendered**—Dr Harvey Robinson, Chadbourn, recently pleaded guilty, it is reported, to charges of selling narcotics, and was required by Judge Groves to surrender his license to practice medicine

**Personal**—Dr Lewis B McBrayer, Sanatorium, secretary North Carolina State Medical Society, has recently been elected chairman of the board of directors of the North Carolina State Odd Fellows Orphanage of which board he has been a member for several years

**County Health Departments**—Wayne County established a record in results in public health work for the recently ended quarter, according to the Rankin-Cost-Equivalent system it earned $3 73 for each dollar expended, during the previous three months Sampson County previously held the record with $2 57 earned for each dollar expended North Carolina now has thirty-two whole-time county health officers with organized county health departments functioning

### OHIO

**Chiropractors Jailed**—Ben L Miles, president of the Ohio Society of State Chiropractors, and A C Humphrey, chiropractor, were recently fined $200 and costs for practicing medicine without a license, it is reported They preferred jail to paying the fines, and will be kept there for 333 days Ellis W West and Harriet A Clemens were fined similar amounts on like charges, but announced that they would appeal their cases

**Cleveland Schools Negotiate for Merger**—It is reported that negotiations are in progress to bring about a merger of Western Reserve University with other institutions in Cleveland to form a University of Cleveland These include the Case School of Applied Science, the Lakeside Hospital, the Maternity Hospital and the Babies' Hospital, the Cleveland Museum of Natural History, the Cleveland School of Art, the Cleveland Museum of Art and the Western Reserve Historical Society Museum It is planned to raise an endowment fund of $20,000,000

### PENNSYLVANIA

**In Practice at Eighty**—A dinner was recently given in honor of Dr James E Silliman, Erie, on the occasion of his eightieth birthday Dr Silliman, who is still in active practice, is said to be the only physician in Erie who has not discarded the horse and buggy for making professional calls

**Bureau of Mental Health.**—Thirty-one mental health clinics are being held regularly in different parts of Pennsylvania according to a recent bulletin of the Bureau of Mental Health, State Department of Welfare Psychologic and social service are supplied for these clinics by both the local communities and the Bureau of Mental Health, and the consultants for the clinics are secured from the various schools for mental defectives and hospitals for mental diseases Dr David J Philips, Jr, formerly mental health officer, Illinois State Penitentiary, Joliet, has been appointed by the bureau as criminologist He is stationed at present at the Eastern State Penitentiary, Philadelphia, from which place he goes to the various other state correctional institutions for consultation

**County Tuberculosis Hospitals in Pennsylvania**—The people of fourteen counties have voted by referendum to establish county tuberculosis hospitals In some instances, little has been done by the county commissioners to carry out the mandate of the voters The following counties have hospitals in operation

Allegheny (Woodville) Allegheny County exclusive of Pittsburgh All classes 150 beds All free

Beaver (Monaca R D 1) Beaver County Pulmonary tuberculosis All stages 49 beds Some free $1 to $21 per week, according to ability of patient to pay

Berks (Neversink Mountain) Berks County All stages 40 beds Free for those who are unable to pay Up to $3 per day according to means

Lackawanna (West Mountain, outside of Scranton) Lackawanna County Moderately advanced and incipient 50 beds All free

Lancaster County will soon have a county tuberculosis hospital The Anti-Tuberculosis Society of Lancaster has purchased the Hotel Rossmere on the outskirts of the city and is transforming it into a sanatorium Sites have been purchased in Luzerne and Cambria County Available sites are being canvassed in Dauphin, Delaware, Erie and Montgomery counties In two counties, Mercer and Northampton, no definite action has been taken, although the people voted in favor of establishing tuberculosis hospitals

### Philadelphia

**Personal**—Dr Chevalier Jackson, professor of bronchoscopy and esophagoscopy in the Jefferson Medical College of Philadelphia, was a guest of honor of the Kiwanis Club at a luncheon in the Bellevue-Stratford, June 9, and was award the Kiwanis medal, as rendering the highest service to his fellowmen during the last year

**Gifts to College of Physicians**—At a meeting of the College of Physicians, June 4 Dr W W Keen presented a portrait of Dr William J Taylor on behalf of his friends, Dr William H Welch, Baltimore, transferred the custodianship of the Cabinet of Historic Medical Mementos to Dr Keen, who made also the presentation on behalf of Sir W Hale White, president of the Royal Society of Medicine, London, of a facsimile of notes on lectures on anatomy in Guy's Hospital in which John Keats was a dresser in 1816

**New Hospital at Blockley**—The erection of a new 2,100 bed hospital to replace the present Philadelphia General Hospital was made possible by the action of the council's committee on public health, June 12 The committee approved the ordinance setting aside $4,000,000 from the next municipal loan for the razing of the present buildings and the erection of the new institution The appropriation will make it possible to remove all the 1,400 insane patients now at

Blockley to the City Hospital for the Insane at Byberry The old buildings now occupied by the insane will be demolished, new buildings erected to house the medical and surgical cases, and, ultimately, all the antiquated structures removed

## SOUTH CAROLINA

**Board of Health Elections**—At a recent meeting of the board of health of Charleston, Dr William H Price was elected chief food inspector for the city, and Jack C Norris, assistant city bacteriologist

**Personal**—Dr Charles H Pate, Bishopville, has been appointed health officer of Henderson County and Hendersonville—Dr Jean B LaBorde has resigned as city health officer of Columbia, effective July 1

## TENNESSEE

**Hospital News**—A group of Knoxville physicians, of which Dr H E Goetz is chairman, is planning to develop the Neubert Springs hotel property into a sanatorium and hotel, at an expenditure of $150,000

**Society News**—At the fifty-ninth semiannual meeting of the Middle Tennessee Medical Association at Columbia, May 15 16, Dr Harrison H Shoulders, Nashville, was elected president Dr James C Kelton, Lascassas, vice president, and Dr Sam P Bailey, Nashville, secretary-treasurer The next meeting place will be Lewisburg——The West Tennessee Medical and Surgical Association met at Jackson, May 22-23, under the presidency of Dr Jesse P Baird Dyersburg The officers for the ensuing year are president Dr B J Gillespie, Covington, vice presidents, Drs William W McBride, Gleason, and G Weldon Oliver, Medina, and secretary, Dr Isaac A McSwain, Paris The next meeting will be held at Paris

## TEXAS

**Personal**—Dr George A McBride has been appointed health officer of Harlingen——Dr James Mackins has been appointed head of the bureau of communicable diseases of the state board of health——Dr Edmond C Hancock, Arlington, has been appointed physician to the Home for Aged Masons, Arlington

**Beneficiaries of the U S Public Health Service**—In a report of the Texas member of the National Legislative Council at the recent meeting of the state medical association, Dr Murff F Bledsoe, Port Arthur, drew attention to the activities in the treatment of private citizens by the U S Public Health Service He said the following are beneficiaries of the Public Health Service, and are treated by its medical force

Those employed on board in the care preservation or navigation of any registered enrolled or licensed vessels of the United States or in the service on board on those engaged in such care preservation or navigation
Seamen employed on U S Army transports or other vessels belonging to the U S Army when not enlisted men of the army
Seamen employed on yachts provided the said yachts are enrolled, licensed or registered as vessels of the United States
Officers and enlisted men of the U S Coast Guard
Officers and employees of the U S Public Health Service
Seamen employed on the vessels of the Engineer Corps of the Army
Officers crews of vessels, keepers and assistant keepers of the Light house Service
Officers and seamen on vessels of the Coast and Geodetic Survey
Civil employees of the United States who are injured while in the performance of their duties
Officers and crew of vessels of the Bureau of Fisheries
Patients of the Bureau of War Risk Insurance
Patients for special study and investigations and
Immigrants and immigrant seamen and foreign seamen are also entitled by courtesy to examination and treatment by this service at the request of the immigration authorities or the consul of the country concerned

## WISCONSIN

**Personal**—The governor has appointed Dr Mina B Glasier, Bloomington, one of the seven members of the state board of health Dr Glasier has been secretary of the Grant County Medical Society for many years——Elliot R Downing, Ph D associate professor of natural science, University of Chicago, addressed the Physicians and Surgeons Club of Beloit at its regular meeting, May 13——Dr Clark W Voorus has been elected health officer of Beaver Dam

## CANADA

**A Lister Memorial**—The Canadian Medical Association two years ago decided to establish a triennial oration in honor of Lister As a result of the deliberations of the committee appointed to consider the question it has been decided to ask the members of the association for contributions The sum considered necessary is $5,000 the interest on which in three years, it is thought, would be sufficient to defray the expense of bringing some distinguished visitor to Canada Dr John Stewart Halifax, delivered the first Listerian oration at the recent meeting of the association in Ottawa Checks may be sent to Dr F N G Starr, 112 College Street, Toronto

**Personal**—Dr Robert A Pyne has been appointed sheriff of Toronto——Dr William E Gallie, assistant professor of clinical surgery, University of Toronto Faculty of Medicine, recently delivered the first of the series of Hunterian lectures before the Royal College of Physicians and Surgeons of London, England, on "The Use of Living Sutures"——Dr Robert T Rutherford, formerly medical inspector of immigration for Canada at Ellis Island, N Y, is now quarantine officer for the Canadian department of health, with headquarters at Partridge Island, St John, N B——Drs John G McDougall and William H Hattie were reelected president and registrar, respectively, of the provincial medical board of Nova Scotia at the annual meeting, May 9——Dr Phileas H Bedard, Montreal, has received the rosette of the French government for his services as public instruction officer——Dr L P Ereaux, a graduate of McGill University Faculty of Medicine, has been appointed medical officer to the Laurentide Health Service, Grand Mere Ont——Prof John J R Macleod, University of Toronto Faculty of Medicine, addressed the Essex County (Ont) Medical Society on 'Respiration and Acidosis," recently——Prof E M Watson has been appointed lecturer on pathologic chemistry at the Western University Faculty of Medicine, London, Ont, and consulting pathologist for Victoria Hospital——Dr Thomas R Ponton, former superintendent of the Vancouver General Hospital, has accepted the superintendency of the Hollywood (Calif) Hospital

## GENERAL

**American Pediatric Society**—At its thirty-sixth annual meeting in Pittsfield, Mass, June 5-6, the American Pediatric Society elected the following officers president, Dr John Ruhrah, Baltimore, vice president, Dr Fritz B Talbot, Boston, secretary-treasurer, Dr Howard C Carpenter, Philadelphia

**Colloid Symposium**—The Second National Colloid Symposium was held at the Northwestern University, Evanston, Ill, June 18-21 Friday, June 20, the evening meeting was held in cooperation with the Chicago Section of the American Chemical Society at the City Club, Chicago A movement to raise an endowment of $1,000,000 for a national institute of research in colloid chemistry has been approved by the National Research Council and the National Academy of Science

**International Conference on Health Problems in Tropical America**—A conference on health problems in tropical America is to be held under the auspices of the medical department of the United Fruit Company, July 22-August 7, at Kingston, Jamaica The program, which will be participated in by authorities on tropical disease and by special representatives of important medical organizations, includes manuscripts on almost every health problem involved in tropical medicine In addition to the scientific program, arrangements have been made for many social events, including an official dinner, a tour of hospitals and plantations and a visit to Guatemala City

**Pacific Coast Oto-Ophthalmological Society**—This society will hold its twelfth annual meeting, July 10-12, 1924, at Portland, Ore, under the presidency of Dr Frederick A Kiehle of that city The guest of honor will be Sir John Herbert Parsons of London, England to whom a complimentary dinner will be given July 9, by the faculty of the School of Medicine of the University of Oregon and who later will deliver a public address on "The Role of Ophthalmology' Sir John will address the society, July 10, on Iridocyclitis' and again at the annual dinner the evening of July 11 on "Retrobulbar Neuritis"

**Society News**—At the convention of the Medical Society of Virginia the Medical and Chirurgical Faculty of Maryland and the Medical Society of the District of Columbia in Alexandria Va, May 21, Dr Howard Fletcher, Warrenton Va was elected president for the ensuing year, Dr George T Klipstein Alexandria, Va, first vice president, Dr Thomas M Foley Washington D C second vice president, Dr Robert S Lamb Washington D C treasurer Dr William T Davis, Washington, D C, recording secretary, and Dr

Joseph D Foley, Washington, D C, corresponding secretary Washington, D C, was chosen for the next semiannual convention of the societies in November

**Medical Library Association**—The twenty-seventh annual meeting of the Medical Library Association was held in Chicago, June 9-10 Papers were read by J Christian Bay of the John Crerar Library, C Perry Fisher, College of Physicians of Philadelphia, Janet Greene of the Hospital Library and Service Bureau, Carl H Milam, secretary of the American Library Association, Col C F Wylde, McGill University Faculty of Medicine, Montreal, Que, lecturer in medicine and clinical medicine and demonstrator in pediatrics, Dr Leroy Crummer, professor of internal medicine, University of Nebraska College of Medicine, Omaha, Margaret Brinton of the Mayo Clinic Library, and William Bebb, D D S, Northwestern Dental School, Chicago

**Malaria Menaces Europe**—The health organization of the League of Nations has sent commissions at the request of the governments of Greece and Albania to study the malaria situation in those countries, and will shortly send a similar commission to Persia According to the minister of health of Greece, 2,000,000 people in that country, or about one-third of the population, are affected with malaria It is also reported that a total of 4,800,000 cases of malaria have been reported in Russia, in which country the Ukraine is the most severely affected There is a scarcity of quinin in these countries, and an international conference to devise means of increasing the supply is under consideration The total annual production of quinin at present is said to be about 600 tons

**Tuberculosis Exhibit at Smithsonian Institution**—A tuberculosis exhibit, which will be part of the permanent exhibit of the National Health Council at the Smithsonian Institution, Washington, D C, has been made for the National Tuberculosis Association by Dwight Franklin of New York There are five groups in the exhibits, each about 18 inches high and 24 inches wide, the wax figures are about 8 inches high The groups bear the legends 1 Overwork, insufficient food, impure air, and lack of exercise cause tuberculosis 2 Early diagnosis at a tuberculosis clinic increases the chances of recovery 3 The tuberculosis nurse teaches the family how to prevent further infection 4 Tuberculosis can be cured, the sanitarium is the best place to take the cure The fifth is a modern health crusade group

**Shriners' Hospital for Crippled Children**—The fifth Shriners' Hospital for Crippled Children was dedicated in St Louis, June 1, the others in operation being at San Francisco, Portland, Ore, Shreveport, La, and Minneapolis It is reported that the Shrine proposes to build at least twenty such hospitals, so that one will be within a reasonable distance of any crippled child in this country, who may receive treatment regardless of creed or race, the only restrictions being that the ailment must be in the field of orthopedic surgery and offer reasonable hope of cure, and the parents financially unable to pay for treatment in other hospitals Each Shriner is assessed $2 a year for this fund Hospitals are being constructed in Montreal, Canada, and Springfield, Mass, and hospital sites have been purchased in Philadelphia and Chicago

**Health Education Scholarships**—The committee on awards of the American Child Health Association met in New York, June 2, and selected fifty teachers as prize winners of $500 scholarships in health education in forty-seven cities throughout the country There were 1,639 competitors who submitted examples of classroom work in health education directed by them during the school year The contest was made possible by an appropriation of $25,000 by the Metropolitan Life Insurance Company The decisions of the committee on awards were determined by the examples of work submitted, by the teachers' records, and by their achievements in carrying health education into homes and in arranging for the correction of physical defects of pupils These scholarships will afford the winners an opportunity to study courses correlated with health education, including nutrition, biology, psychology, sociology and education, at one of the leading universities

**Safety in Oil Fields**—An investigation of safety conditions in the oil fields of the country is being made by the Department of the Interior, through the bureau of mines It is the intention of the bureau to keep in touch with officials and safety engineers employed by oil companies, by correspondence and personal visits, and to encourage and advise them about measures that will strengthen the safety work at their properties The bureau will gather information from the properties visited regarding methods and devices used to increase safety, take photographs to illustrate safety articles and bulletins showing safe and unsafe practices, gather and publish accident statistics, and disseminate among operators, foremen and workmen, by personal visits, the arguments for increased safety in the oil industry A bulletin on the draw works, rotary table and drilling engine safeguards has been completed and will soon be published, and another on safeguarding the derrick is in preparation Other safeguards and safety devices will be studied and the findings published from time to time

**Trachoma Campaign Among the Indians**—A crusade to eradicate trachoma among the Indians of Arizona and New Mexico will be inaugurated, July 1, under the direction of a special physician of the Indian Office assisted by surgeons of the U S Public Health Service, it was announced at the Interior Department, June 17 The campaign known as the Southwestern Trachoma Campaign grew out of the recent trip made by Secretary of the Interior Work and Commissioner Charles H Burke of the Bureau of Indian Affairs to survey health conditions among Southwestern Indians A conference recently held between Dr John McMullen, surgeon, U S Public Health Service, and a committee appointed by the Indian Office, resulted in the completion of plans Dr James S Perkins, special physician in charge of the states of Arizona and New Mexico, will direct the movement to stamp out trachoma Temporary trachoma hospitals will be established in Indian school buildings unoccupied during the vacation period There will be three operating units that will go into the field, each headed by a special physician with a crew of Indian employees sufficient to carry on the work of examining and treating Indian patients suffering with trachoma efficiently and expeditiously The three units will begin work at Fort Defiance on the Navajo jurisdiction and from there will proceed to other jurisdictions Trachoma nurses will be employed and assigned to various schools and stations for carrying out the after-treatments prescribed and all necessary medical supplies and equipment will be furnished by the Indian Office Dr Polk Richards, Fort Defiance, Ariz, has been designated as consulting ophthalmologist for the campaign, which is the first of its kind to be conducted by the government against trachoma among the Indians Similar groups of medical experts will be organized later by the Bureau of Indian Affairs to extend the work of eradicating trachoma to other reservations

**Bequests and Donations**—The following bequests and donations have recently been announced

American Pharmaceutic Association, $300,000, in the campaign for funds for the new headquarters building

Northwestern University Chicago, $250 000, for the George R Thorne Memorial Auditorium, by Mrs Thorne

Philadelphia Home for Incurables $105 000, by Mrs Maggie Crawford

Silver Cross Hospital, Joliet, Ill, $100,000, by the will of Charles Pettigrew

Jewish Hospital Philadelphia, $32,000, by Mrs Odella S Ellis, for a nurses' home in memory of her mother, and $25,000, by Mrs Harry Miller

The New Brunswick Hospital, St Peters General Hospital and the Middlesex General Hospital, N J, $11,000 each, by the Elks Club

Huntsville Ala towards the erection of a hospital, $10,000, for the establishment of five memorial rooms, in memory of his family, by Thomas T Terry

The Charity Hospital, New Orleans, $5,000 the Orphan Asylum and the Louisiana Commission for the Blind $2 000 each, the Child Welfare Association, Little Sisters of the Poor, the Hotel Dieu, Touro Infirmary the Convalescent Home the Tuberculosis League, the Milne Home for Feebleminded and the Chinchuba Deaf and Dumb Institute, each $1,000, by the will of Edward A Larose

The Brooklyn Hebrew Orphan Asylum $5,000, the Brooklyn Federation of Charities, $2 500, and the New York Skin and Cancer Hospital, $1 000, by the will of Rachael Lublin

The Staten Island (New York) Hospital and the Richmond County Society for the Prevention of Cruelty to Children, each $5,000, by the will of George T Bonner

The Babies' Hospital Philadelphia, $5,000 a year for the maintenance of an outpatient obstetrical department, by Mrs Edward T Stotesbury of Philadelphia

The Lenox Hill Hospital, New York City, $5,000, by the will of George P Lies

The Nursery and Child's Hospital, Baltimore, $4,000, by the will of Mrs Carrie Simson

The Montgomery Hospital Norristown Pa, $1,000, the Samaritan Hospital the Philadelphia Home for Incurables, St Joseph's Hospital, the Northwestern General, the Roosevelt hospitals, the Woman's Homeopathic Association the Woman's Hospital and the Children's Homeopathic Hospital, each $5,000, and at the death of the beneficiaries, $10 000 each to the American Oncologic Hospital and the Northwestern General Hospital, Philadelphia, by the will of Mrs Catherine Wentz

Jamaica Hospital, Jamaica, N Y, $1,000, for the establishment of a room to be known as the Roosevelt Auxiliary room by the auxiliary

Children's Aid Society, a sixty three acre farm at Valhalla, N Y for the accommodation of fifty convalescent boys, by Dunlevy Milbank, in memory of his father

Dutchess County N Y, a seventy five acre farm near Freedom Plains for a summer health camp, by the Elks

Graham, Texas the site and half the necessary building amount for a community hospital in that city, by M K Graham

Bashor Deaconess Orphanage, Goshen, Ind., 370 acres, by Mr. and Mrs. William Bashor.

Beardstown, Ill., land for a hospital site, by Dr. Henry Ehrhardt.

Out of the $65,532 Rosenfeld Trust Fund, Mr. and Mrs. Ernst Rosenfeld will equip a department of radiotherapy and purchase radium for Mt. Sinai Hospital, New York City.

Hospital for Joint Diseases and the Montefiore Hospital, New York City, in commemoration of its sixtieth anniversary, the Progress Club has endowed a bed in each of these institutions.

Northwestern General Hospital, Philadelphia, the endowment of four beds and a fully equipped ambulance by the Order of Artisans.

Newton, Iowa, her former residence, to be used for a hospital by the will of Mrs. William R. Manning.

Rush Medical College, Chicago, his surgical instruments and library, by the will of the late Dr. John Mandeville.

James W. Sheldon Memorial Hospital, Albion, Mich., a roentgen ray machine by Dr. George C. Hafford.

## LATIN AMERICA

**Leprosy in Panama**.—Dr. Joseph S. Ergas, superintendent of the government charity hospital at Bocas del Toro, writes that in the last six months eight patients with leprosy in the republic of Panama have been sent to the leprosarium at Palo Secco. There are many other patients, he says, still "loose" in various parts of the republic, but measures are being taken to have them isolated.

## FOREIGN

**Magazine for Blind Children**.—The *School Magazine*, a braille magazine for blind children, has been established in England. It contains essays, poetry, humor and a competition page.

**Motor Insurance for Physicians in England**.—The Medical General Insurance Association Limited of London issues a special policy for physicians at less than the usual rates. It covers accidents, theft, fire, and compensation for loss of fees through bodily injury. The lower rate to physicians is possible, it is stated, because physicians on the average are better qualified drivers than the general public.

**Mental Hygiene in Hungary**.—The latest country to organize a national society to promote the mental hygiene of its citizens is Hungary. The society was recently organized in the house of parliament at Budapest under governmental auspices, in the presence of the secretary of state, the minister of public welfare, members of the nobility and numerous representatives of the medical profession. Sponsors of the league included the regent of Hungary, Admiral Horthy, the primate of Hungary and many other prominent Hungarians.

**Belgium's Need of Physicians for the Colonies**.—The *Bruxelles-medical* remarks that the ten years of guaranteed service for physicians for the colonies would attract many physicians if it were not for the fear of what might follow when the ten years are ended. They return to practice in the home land, but are unable to find a footing. The editorial suggests that if a post were guaranteed in some branch of the state service on their return, there would be many more candidates for the colonial positions. A similar law is already in vogue reserving certain positions for ex-soldiers.

**French Pension Scandal**.—A group of physicians and others at Marseilles have been convicted of fraud in regard to pensions for war-wound disability. The *Marseille medical* gives the list of seven physicians who have been sentenced to prison for terms of from six months to two years, deprived of the right to practice for from four to ten years, and fines imposed of from nearly 4,000 to nearly 134,000 francs, to be paid to the state, other fines to the Veterans' Union, and a nominal fine of 1 franc to the local medical syndicate. Two health officers and some pharmacists are also penalized, and the soldiers involved are given from six months to four years in prison and fined from 2,000 to 4,000 francs.

**Medical Expedition to the South Seas**.—An expedition sent from the London School of Tropical Medicine to the Samoan Islands in 1921-1922 has made a preliminary report. Twenty islands were surveyed in the Samoan, Tokelau and Ellice groups. It was stated that the prevalent diseases are ancylostomiasis, filariasis, yaws, tuberculosis and skin affections, especially tinea imbricata. Leprosy was found in the Samoan group and many cases of fish poisoning in the Southern Ellice Islands. In Samoa, of 2,509 persons past their sixteenth year, 58.3 per cent. showed evidence of filarial infestation, 115 cases of elephantiasis were seen, the percentage of ancylostome infection was 85.1. Gonorrhea seemed to be exceedingly rare.

**Hospital for Japan**.—A portion of the relief fund of the American Red Cross, given to the Japanese Red Cross at the time of the earthquake last autumn, has been set aside for the building of a hospital, the name of which is to be "Neighbor Love Memorial Hospital Foundation" (Do ai kinen byoin sai dan), to commemorate American generosity and sympathy. The necessary charter has been obtained from the department of the interior, and a committee has been appointed, composed of the vice minister of home affairs (chairman), the chief of the department of health, the chief of the bureau of intelligence on Europe and America (a subdivision of the bureau of foreign affairs) and two professors of medicine, one from Tokyo University and one from Keio University. An advisory board of ten members is to be selected from prominent representatives of the medical profession in Japan. The building and equipment are to cost $1,500,000, another million and a half has been invested in bonds of the city of Tokyo, and the interest will be used for maintenance. The hospital will have a capacity of from 200 to 300 beds, and will be ready to receive patients at this time next year.

**The International Urologic Congress**.—The first meeting of the International Urologic Society since its reorganization after the war was held at Paris in 1921, and the second meeting has just been held at Rome. Professor Alessandri presided. The three topics selected for discussion were "Denervation of the Kidneys", "Vaccine Therapy in Non-gonorrheal Urinary Affections," and "Remote Results of Operations for Calculi in Kidneys and Ureters." Removal of the sensory nerve fibers in the pedicle of the kidney, in treatment of rebellious pain in the kidney, elicited a lively discussion, and Legueu reported excellent results without apparent injury of renal function. Ambard has apparently demonstrated in animals that the denervated kidney keeps pace functionally with its sound mate. The reports on protein therapy and vaccine therapy in urinary affections were conflicting, although Rovsing reported 85 per cent. cured or materially improved by an autogenous vaccine in 222 cases, 15 per cent. were refractory. Pirondini suggested that it might be well to supplement the vaccine made from the urine with a vaccine made from the primary focus elsewhere, in teeth, skin, tonsils, genital organs or colon.

**Medical Journal Offers Prizes**.—The directors of the *Medical Journal of South Africa* have decided to offer prizes for the three best essays submitted to them on or before December 31, the subjects to be (*a*) "Dental Caries in Native Children in Kraals and in Urban Areas", (*b*) "Frequency of Infestation with and Pathologic Conditions Due to Intestinal Parasites Among Europeans and Natives in South Africa and the Treatment of These Conditions", (*c*) "Surgical Tuberculosis in South Africa and Its Treatment", (*d*) "Chronic Diarrhea: Its Etiology, Pathology and Treatment, with Especial Reference to South African Conditions", (*e*) "The Treatment of Industrial Surgical Accidents, with Special Reference to Restoration of Functions and Minimizing Subsequent Incapacity." The first prize will be 100 guineas, the second 60 guineas, the third 40 guineas. Full-time employees of the department of public health or full-time workers in research institutions shall not be eligible for the awards. The directors hope to be able to offer similar prizes from year to year. They will be known as the Maynard Prize Essays to commemorate their association with the late Dr. Maynard, who as editor of the journal was instrumental in establishing them. The Hamilton Gold Medal will also be awarded annually for the best paper published in the *Medical Journal of South Africa* in each calendar year by a bona fide resident of South Africa, but the award shall not be made a second time to the same person within a period of five years.

## CORRECTIONS

**Minutes of the Section on Laryngology**.—In THE JOURNAL, June 21, under the minutes of the Section on Laryngology, it was stated that Dr. M. M. Stapler, Macon, Ga., presented an instrument which breaks up adhesions on the larynx. The word "larynx" should have been "labyrinth."

**The Massachusetts Board**.—In THE JOURNAL, March 22, p. 979, was an item referring to the Massachusetts Board of Registration in Medicine. It was based on a newspaper item which stated that a bill had been submitted to the Massachusetts legislature to abolish the board, that this bill was backed by the Massachusetts Medical Society and that the 'only opposition to the bill' was from 'persons connected with two grade C medical schools of the state." A letter from the chairman of the Board of Registration in Medicine states that instead of supporting the bill, the president of the Massachusetts Medical Society opposed it before the legislative committee and that representatives of the Class C schools supported the bill because they misinterpreted it to give the board power to refuse to examine their graduates.

# Foreign Letters

## LONDON

*(From Our Regular Correspondent)*

June 2, 1924

### Proposed Abolition of the Indian Medical Service

As foreshadowed in previous letters, the Indian Medical Service, which has played such an important part not only in the introduction of European civilization into India but also in the development of tropical medicine, is likely to be abolished This seems to be an inevitable result of the granting of a large measure of self-government to India and the consequent Indianization of the government services

Established in the first instance as a military service for duty with the Indian army, the Indian Medical Service has played a notable part in the civil life of India It has not only devoted itself to the medical care of the civil population of both races, it has also been the chief agent in spreading throughout India, by means of collegiate and hospital teaching and by personal example, western ideas of medicine, surgery and sanitation, while among those who have devoted themselves to original research are some whose names are held in honor throughout the world It has been increasingly evident, however, for some years past that some readjustment was desirable in the constitution of the medical service in India A royal commission appointed to consider the possibility of transferring the superior civil services in India to services constituted on a provincial basis has presented its report It recommends that a new civil medical service be constituted in each province, and recruited by competitive examinations held both in England and in India, the medical need of both the British and Indian armies in India being met, in future, by the Royal Army Medical Corps (India), that is, the medical corps of the British troops stationed in India Every officer of the new provincial civil medical services should be liable for service with the Royal Army Medical Corps (India) in the event of general mobilization To meet the medical needs of British officers in the civil services stationed in India, and their families, a minimal number of British officers should be maintained in the proposed civil medical service Subject to the existing rights of present members of the Indian Medical Service, all scientific chairs in government colleges and hospitals should, in future, be thrown open to all candidates, the clinical chairs being reserved for members of the civil medical services, however recruited, so long as fit candidates are available The commission considers that the almost universally expressed anxiety of British members of the services in India to have access to British medical advice for themselves and their families is vital to contentment Owing to the geographic conditions of India, and in view of the increasing Indianization of the services, including the medical, the adequate provision of British physicians for the British members of the services presents peculiar difficulties

The commission recommends that the districts of a province should be grouped, and a British medical officer (civil or military) should always be posted to one station in each group This station should be within easy reach of each district in the group In stations where there is no British medical officer, traveling allowances for the officer or his family should be granted to and from the nearest station where there is such medical officer Payment should be made on a certificate by the medical officer, countersigned, if desirable, by the head of the medical service in the province Alternatively, if more convenient or if the patient is not able to travel, the expenses of the medical officer's visit (exclusive of his normal fee for attendance) should be defrayed by the government In the event of a case being of such a serious or special nature that the physician first consulted does not feel competent or willing to treat it, he may give a certificate authorizing the patient to travel to the nearest station at which adequate treatment can be given This certificate should qualify the patient for the grant of traveling allowance In stations at which only military medical officers are available, their services should be at the disposal of civil officers and their families, on payment of normal fees

### Epidemic Encephalitis

Last week, 251 fresh cases of epidemic (lethargic) encephalitis were notified in England and Wales, a slight decline from the week before But this is incomparably the most extensive outbreak of the disease that has so far been recorded The ministry of health has issued a further report, the most important feature of which is the attention devoted to the consequences of this strange disease, which may prove to be of great medicolegal importance The sequelae are of both neurologic and medicolegal importance They may appear (1) in the course of the original acute malady and persist after partial or complete disappearance of all other symptoms, or (2) after the original acute attack has apparently terminated or possibly has passed unrecognized Such effects are declared after a variable latent period, ranging from some weeks to over two years No definite opinion, therefore, can be expressed until after some years as to whether an attack of acute encephalitis, however mild in appearance, may or may not result in serious sequelae The most important after-effect is the mental condition that may supervene and may include irritability, maniacal outbursts and complete change in moral character and self-control Lying and theft may appear for the first time in the conduct of the victim, as well as grosser mental defects (including even homicidal attacks), which may result in the patient's transference to a mental institution These symptoms are of all grades of severity, and may be associated with nervous lesions They are usually seen in children or in young adults Thus, it is possible that some instances of motiveless crime and of violent behavior are the result of this disease, and not, as might be supposed, of inherent vice Also other consequences of a physical type are described, and attention is directed to the fact that very mild cases of the disease occur These may give rise to serious after-effects The mortality in the present epidemic has been relatively low (from 12 to 20 per cent) Specimens of cerebrospinal fluid from cases or suspected cases of epidemic encephalitis can be sent by physicians to the ministry of health for examination Health officers are invited to take any action they consider useful and practicable to secure postmortem and pathologic examinations by skilled workers who are investigating the disease In view of the severity of the disease and the importance of good nursing, hospital treatment is recommended The isolation hospitals of local authorities should be available for this purpose Any public nursing arrangements possessed by or arranged with the authority should be made available for cases treated at home The other occupants of a house in which a case of encephalitis has occurred or is being treated are assured that the disease is one of low infectivity, and that very slight risk is run by association with the patient At the same time, such association should be limited to what is necessary for proper care and nursing, and the patient should be well isolated in a separate room School children in the affected household may be kept from school, as a precautionary measure, for three weeks after the isolation of the patient Those in contact with the patient, however, may be advised to use antiseptic nasal sprays or douches and to gargle the throat with solutions such as those advised for influenza For example, (1) 1 per cent solution of hydrogen peroxid, (2) a solution of potassium permanganate, 1 5,000,

in 0 8 per cent solution of sodium chlorid, or (3) solution of chlorinated soda, 0 5 per cent These solutions can be used as ordinary throat gargles or snuffed up the nostrils, or applied by an efficient spray Any persons in the infected household who suffer from sore throat or other symptoms suggesting an abortive attack are to be treated from this point of view and isolated as far as possible until they have recovered

### The British Medical Association

Dr Alfred Cox, medical secretary, and Sir Jenner Verrall have gone to Canada on a visit to the Canadian Medical Association, at the invitation of the latter body The membership of the British Medical Association at home and abroad has made progress during the past year and reached a record total In England there was an increase of 872 members, in Scotland, 298, in Wales and Monmouthshire, forty-nine, and in Ireland, 108 In Asia the membership is larger by sixty-six, in Africa by forty-two, in North and South America by eighteen In Australasia there was a gain of 262 members

### An Irish Problem

The establishment of the Irish Free State as an almost independent country has had some consequences not foreseen or desired by its advocates An example is furnished by the address of the president, Sir Donald MacAlister He said that unless the government of the Irish Free State should formally communicate to his majesty's government its desire for the continuance of the existing system, references direct or indirect to "Ireland" in the medical and dentists' acts must henceforth be read as references to "northern Ireland" only In other words, the direct relations and responsibilities of "the General Council of Medical Education and Registration of the United Kingdom" will in future be restricted to Great Britain and northern Ireland The universities and medical corporations and the physicians of southern Ireland will no longer be entitled to representation on the council The medical qualifications granted by licensing bodies in the Irish Free State will no longer be placed on the British Register The importance of this lies in the fact that a large proportion of the physicians who qualify in Ireland do not settle there but in other parts of the British Empire Many of them go to England or enter the British army Failing some new arrangement, these outlets will be closed to them Some of these results cannot but be disadvantageous, not only to the public health, but also to medical education and to the medical profession in southern Ireland A temporary continuance of existing conditions, pending the enactment of local legislation in southern Ireland, seems to afford at least an interim solution of the difficulty The number of new physicians registered in 1923 was the highest on record—namely, 2,482—including 244 in colonial and foreign lists In 1918, the number of students registered was 2,253, in 1919, the number rose to 3,420

### Factory Medical Inspection

The committee appointed by the government to inquire into the provisions of the factory and workshops acts for the medical examination of young persons as to their fitness for employment in factories has just issued an important report The committee is much impressed by the highly organized system of medical examination and treatment of school children, and by the complete records kept by the local authority of the health conditions of every child leaving the elementary schools, and by the fact that in nearly every case the medical examination of the same children entering the factory is conducted by 'the certifying surgeon" without reference to the previous health record, which has been up to that time carefully kept For the resulting waste and loss, no blame is attached either to the certifying surgeon or the school medical officer, as no organization exists for their cooperation The school medical service is not the only public health service in regard to which there is a lack of coordination The certifying surgeon's work and that of the tuberculosis officer are carried on in water-tight compartments, and the action of the former in some cases has been inadvertently in direct opposition to the objects of the latter Several witnesses who gave evidence before the committee stated that, from their experience, the examination of girls for such work was best and most suitably conducted by a woman, and the committee recommends that the examining surgeons should include women Among many recommendations for the improvement of the system of inspection are that the age of children at examination should be raised from 16 to 18, and that the examination should be required in all factories and workshops, except such as the home office may, by special order, exempt

### Latin No Longer Compulsory for the M R C P

In this country there has existed for some years a tendency to displace the classical languages from the important position they once occupied in education The latest example is supplied by the Royal College of Physicians, whose by-laws prescribed that a candidate for the M R C P shall satisfy the censor's board as to his education in science and literature This has heretofore been taken to mean a working knowledge of Latin, and it has been optional for candidates to submit for examination in Greek, French or German also At a recent meeting of the college, it was resolved that in future languages would not be compulsory, but that credit would be given to those who showed a knowledge in these subjects

## BELGIUM

*(From Our Regular Correspondent)*

May 23, 1924

### Results of Radiotherapy

In a previous letter, I referred to the course of lectures delivered by Professor Regaud of Paris at the University of Liege on the subject of the radiologic treatment of cancer It may be of interest to give a brief summary of the results of this treatment as reported by this specialist The statistics cover the years 1919, 1920 and 1921

#### SKIN CANCERS

During the three years 1919-1921, sixty-one epidermoids and seventy-four nonepidermoids were treated Sixty-two per cent of the epidermoids were apparently cured (95 per cent of the operable and 40 per cent of nonoperable cases) Of the nonepidermoids, 59 4 per cent were apparently cured, or a slightly lower percentage than of the epidermoids This is due mainly to the fact that in the case of many patients a cancer had received previously fractions of a full lethal dose of roentgen rays In this connection, the following statistics are particularly instructive Of cancer patients who had received previously one roentgen-ray treatment, 86 per cent recovered Of those who had received previously two roentgen-ray treatments, 54 per cent recovered, three roentgen-ray treatments, 38 per cent , four roentgen-ray treatments, 0 per cent It may be easily seen from these experiences how important it is to succeed at the first sitting for, when a cancer receives only a fraction of a lethal dose, the inevitable consequence is that the patient loses valuable time during which the tumor, unchecked, may grow in volume and in surface area, furthermore, the radiosensitiveness of the tumor may be decreased by insufficient doses

#### CANCER OF THE MOUTH

The results secured in 1920 and 1921 are more encouraging than those of 1919 A report of the cases follows (1) intralingual cancers thirty-six cases, in which nine were benefited,

(2) dorso-anterior and latero-anterior cancers fifty-two cases, in which thirty-one were improved, (3) dorso-posterior cancers twenty-five cases, with five improved

As to the length of time that patients survived the treatment, of the patients treated in 1919, only 5 per cent were living a year afterward, of those treated in 1920, 29 per cent were living a year later, while of the patients who accepted treatment in 1921, 58 per cent had survived at the end of the first year As to the relative success attained from the standpoint of the state of operability at the time treatment was given, an improvement was effected in 7 6 per cent of the inoperable cases, in 33 per cent of the cases that might be regarded as barely operable, and in 45 per cent of the cases that were frankly operable

CANCER OF THE UTERUS

In a series of 205 cases, 114 were not operable, in this group, 26 2 per cent of apparent recoveries were recorded, in sixty-seven cases that had reached the limit of operability, there were 35 8 per cent improved, while in twenty-four operable cases there were 45 8 per cent benefited In another series of twenty-six cases, 23 4 per cent had no trace of cancer at the end of 1922 Beginning with 1922, Regaud and his adherents have introduced many notable improvements in their technical methods, and they have observed since that date a gradual betterment in their percentages of recoveries However, they cannot be sure as yet that the progress is fixed and established, for the reason that the improvement has, after all, been only slight At present, they use a combination of three methods of treatment, following this schematic formula (1) roentgenotherapy for the purpose of sterilizing the more remote surrounding tissues, (2) local radium therapy, and (3) hysterectomy after retrocession of the lesions

## Health Insurance

The lower branch of the legislature has before it at present a bill pertaining to a compulsory form of health insurance The proposed law will apply to workers of both sexes who are employed at a given wage or salary by the head of an industrial enterprise or by any other employer, provided they are earning less than 10,000 francs a year Health insurance will be organized by the mutual companies for their own individual members and by the regional establishments for those who have not been admitted to the mutual companies There will be a regional establishment for each arrondissement or district Sickness benefits will be granted and paid by these primary organizations for a period of six months In addition to compensation for a short (six months) period of illness and that for permanent total disability, the law provides also for indemnification for prolonged illness, which risk will be assumed, for a period of three years, by the federal mutual health insurance societies or by the regional establishments The third category is disablement insurance Any one who is no longer able to earn half of his normal salary is regarded as a partial invalid The insured may lay claim to invalidity benefits when he has exhausted his rights in the primary and secondary organizations, that is, after the six months and the three years have elapsed The primary mutual companies and the regional establishments guarantee their members free medical treatment and free drugs in addition to cash benefits

## The Treasury and Physicians

Since the legislation was enacted that provided for an income tax and a stamp tax on receipts, the treasury administration has been constantly introducing new methods of controlling the declarations of taxpayers Until recently, the liberal professions and, more particularly, the medical profession, had escaped a rigid application of the law But the minister of finance has now declared that a receipt must be given for all money received in the form of fees The receipt blank must be taken from a receipt book with stubs or counterfoils, the type of which is to be determined by the minister of finance All that is required to be written on the stubs or counterfoils is the amount of the fees, commissions or remunerations, together with the name of the debtor Any person who pays an account without demanding a receipt is subject to a fine, being held coresponsible with the recipient of the amount

## State Provision of Antivenereal Drugs

Good results have been secured through government aid in the control of syphilis, but gonorrheal infection has not been suppressed to the same extent Hoping for better progress in combating gonorrhea, the minister of the interior has decided not only to distribute gratuitously antigonorrheal vaccines but to institute also government control of their manufacture Only certain physicians and institutions accepted for the treatment of venereal diseases may prescribe, at state expense, government controlled antigonorrheal vaccines

The method adopted for the control of vaccines is as follows When a manufacturer has prepared a stock of vaccine intended for general medical use, he sends a request to the public health service that the lot be examined A representative from the laboratory of the public health service inspects the stock, and takes with him from 2 to 5 per cent of the stock as samples If the result of the laboratory test is satisfactory, the administration notifies the manufacturer that the vaccine may be furnished to the pharmacists and physicians authorized to carry it If the test results unfavorably, the whole lot is held back until its final disposition can be decided on

## The Belgian Society of Dermatology and Syphilology

The Societe belge de dermatologie et de syphiligraphie has published the first number of its bulletin appearing since the war It comprises more than 200 pages and contains reports of proceedings for the period from 1919 to 1922 The next bulletin (reports for 1923) will appear shortly It is planned to issue then a bulletin every three months

## The Antisyphilitic Dispensary at the Maternity Hospital in Antwerp

At the instance of Dr Henrotay, an antisyphilitic dispensary has been established at the Maternity Hospital in Antwerp Henrotay has just published an account of his experiences in the dispensary since it was established, Nov 1, 1922—for this is the first service of this kind to be organized in Belgium Only women are treated in whom syphilis is discovered during their sojourn in the hospital in connection with their confinement The women concerned are always informed of their condition, and are urged to report regularly at the dispensary at the same time that they take part in the consultations for expectant mothers Contrary to the practice in Paris, the husbands of the women are not accepted for treatment, not only to prevent any possible promiscuity but also to avoid difficulties of an administrative character The husbands are, however, frequently referred to a special dispensary The statistics cover 128 cases (108 women and twenty children) who were registered at the special dispensary Of the 108 women forty-nine visited the dispensary regularly, forty-five irregularly These results are encouraging By educating the general public, and by intensifying the antivenereal campaign and the dissemination of the principles of hygiene, the crusade against infant mortality will become, from year to year, more and more successful

## Tuberculosis on the Belgian Congo

At the congress of tropical medicine held at Saint-Paul de Loanda (western Africa), Dr Rodham gave a report on the incidence of tuberculosis in various parts of the Belgian Congo as determined by means of the cutireaction In Irebu Camp, of 1,200 cutireactions, 5 77 per cent were positive in men, 2 57 per cent in women, and 2 per cent in children At

Kinshasa he secured 16 per cent of positive reactions in children At Boma, 54 per cent of the pupils of a school reacted positively He gave comparative statistical figures for the years 1913 and 1923, which showed that the proportion of persons infected in the large centers had increased fourfold in ten years The following measures have been adopted to check the march of the disease compulsory notification of tuberculosis, refusal of admittance to the colony to Europeans presenting open lesions, the creation of sanatoriums for tuberculous natives one at Banana, another in the neighborhood of Stanleypool, and others in various sections of the country

## PRAGUE

*(From Our Regular Correspondent)*

May 1, 1924

### Prevention of Cancer

The Society for the Study and Eradication of Cancer in Prague has decided to create an elaborate organization Up to the present, the activities of the society have been largely theoretical, but it has accepted now the scheme proposed by Prof Jaroslav Hlava, the senior of the medical faculty of the Prague University and the president of the society An institute for research in cancer has been created in the new building for pathologic anatomy of which Professor Hlava is the director, an institute for the treatment of cancer has been organized by Prof J Jedlicka in the Podol Sanatorium, and a separate division for educating the public on the importance of cancer and methods for its prevention is being created The society has accumulated considerable funds through the popularity of its president, and it has been given official recognition by a large gift of the president of the Czechoslovak Republic, T G Masaryk The society feels that the Czechoslovak Republic is in an especially advantageous situation with regard to the treatment of cancer The country contains large radium resources and therefore wants to organize an extensive cancer campaign along both preventive and curative lines

### A New Central Building for Medical Organizations

For a long time the medical profession in Prague has felt the need of bringing various medical organizations together in one center A committee was appointed for the erection of a building for that purpose, and a site situated amid the buildings of the medical faculty was purchased Activities were almost discontinued at the outbreak of the World War, but recently the committee has been reorganized and now is working hard to complete the project The new building will bring together institutions that are widely scattered about the city It is planned to transfer to this building the Union of Czechoslovak Physicians, the Society of Czech Physicians, which is an organization for postgraduate training, and the Library of Czech Physicians, which is a very old institution recently reorganized with assistance from the state treasury It is also planned to house in the new building the Association of Czech Medical Students, which has always occupied an important position in the Czechoslovak medical profession, and which also owns a good library

### Professor Weigner's Fiftieth Birthday

Prof Charles Weigner of Prague recently celebrated his fiftieth birthday In spite of his age, Professor Weigner has achieved an important position on the staff of the Czech Medical Faculty in Prague His early studies concerned the comparative anatomy of the cranial nerves and the structure and weight of the central nervous system Following studies on the origin of man, his interest turned chiefly to problems of topographic anatomy, and only recently he completed a voluminous textbook on that subject Together with Prof L Syllaba, he published a series of papers on the anatomic foundation for percussion Professor Weigner is undoubtedly one of the best teachers of the Czech Prague Medical Faculty His purpose has always been to teach anatomy in such a way that it would be of use in the practice of medicine and not simply as a science in itself He has remained, therefore, in contact with clinicians, and his textbook is followed by medical practitioners Besides his scientific activities, he is a leader in the physical culture movement It is largely to his credit that physical education in the Sokol Unions has been put on a scientific foundation and that a School for Physical Education is now being built in Prague He is one of the few medical men who has also considerable political influence

### A Course in Balneology

The Young Generation of Czechoslovak Physicians organized in April a course in balneology in cooperation with the Czech Medical Faculty in Prague The course was given to stimulate interest in balneology in Czechoslovakia, which has such an abundance of thermal springs and watering places Instruction was given on the treatment of heart diseases by carbon dioxid baths, the thermal treatment of bone diseases, balneotherapy in the home, physiotherapy, diathermy, and the climatic treatment of tuberculosis The Czechoslovak Republic contains many watering places which are as effective as such famous watering places as Carlsbad and Marienbad

### Growth of Society for Combating Venereal Diseases

A committee of the Czechoslovak Society for Combating Venereal Diseases for the province of Moravia has been organized in Olomouc Thus, Olomouc assumes the leadership in this work in that province, largely through the activities of Dr V Odstrcil, who is in charge of the dermatologic and venerologic department at the Olomouc general hospital, and associate professor of venerology at the Prague Medical School The extension of activities to Moravia is proof of the growth of the society, which was largely responsible for the abolitionist legislation in the Czechoslovak Republic Immediately before and after the passage of this law, the society had to stand may attacks from the reglementarists, but in operation the law has brought a full justification of the stand of the society which is shown now in the increasing popularity of its ideas

## HOLLAND

*(From Our Regular Correspondent)*

May 6, 1924

### Automobile Insurance for Physicians

The cost of automobile accident insurance has increased considerably Many insurance companies have added 25 per cent to the premiums on policies of physicians, on the ground that they are exposed to greater risks, since they drive in all kinds of weather and at night Statistics seem to show, however, that accidents occur much less frequently among physicians than among inexperienced drivers In order properly to adjust the insurance premiums, many medical societies have requested insurance companies to consider the organization of a mutual automobile accident insurance company for physicians

### Bovine Tuberculosis and Rabies in the Dutch East Indies

A report published by the veterinary service of the Dutch East Indies for 1922 contains interesting information regarding tuberculosis and rabies It appears that bovine tuberculosis is still widespread, although a progressive improvement is noticeable At Soerabaja there is a government station to which several veterinarians are attached whose duty it is to detect disease in animals They not only use the tuberculin test but also resort to injections into guinea-pigs in addition to clinical diagnosis Such an organization

requires a large personnel, and so far it has not been feasible to extend this service to the whole country

In 1922, 113 cases of rabies were observed as against seventy in 1921 Here again the crusade against infection is rendered very difficult by a lack of funds Observations in the interior of the country have not been provided for, and it must be admitted that the system is not effective except in large towns

### Deafness in School Children

At a recent meeting of school physicians, Professor Burger presented a communication on the relation of adenoids to deafness in school children In a previous letter, I mentioned the organization of schools for backward children It is interesting to note the distinctions that Professor Burger makes After separating the deaf-mutes from the group of children in whom defective hearing causes an impairment of education, he holds that not all children who have a certain degree of deafness should be assigned to special classes for deaf children In other words, it is not the degree of organic deafness that should determine whether a child should attend a special school Many children with reduced hearing are able to pursue the ordinary courses, and for them to remain in the usual classes is a privilege which they should not be denied In classifying children, therefore, a careful selection should be made without following any absolute rule, and each case should be dealt with individually Deafness itself should not be the sole criterion, but the question, Is the child able to keep up with his classmates? It is especially important that children with defective hearing shall not be in contact with deaf-mutes

### Law Regarding Infectious Diseases

A bill pending in the lower branch of the legislature has given rise to much controversy The question at issue is vaccination against smallpox Vaccination is not compulsory for everybody, but in spite of the objection of the medical societies, a paragraph was introduced in this bill to exempt those who have religious or philosophical scruples against it It is evident that this opens the way for all sorts of objections, and that a person who wishes to escape would only need to state that he is opposed to vaccination The law therefore would be a menace to public health

The Nederlandsch Congres voor Openbare Gezondheidsregeling called a meeting to discuss the proposed law The speakers emphasized the danger of such exemption, and demanded that the bill be modified so as to exempt from vaccination only those whose health would be impaired by it To prevent the abuse of this reservation, the opinion of one physician should not be sufficient to secure exemption, but the written statement of two physicians whose authority is acceptable should be required This, at least, was the opinion of Dr Kuiper

In some regions the opposition to vaccination seems widespread Figures presented at this meeting by Dr Folmer of the province of Zuid-Beveland indicate that among the 50,000 inhabitants nearly 15,000 oppose vaccination, and in some communes about 50 per cent of the population oppose it These figures, however, reflect the sentiment in a small part of the country Following the special meeting of the congress, the sanitary commission of Velsen passed a resolution calling attention to the menace to the whole population that a small minority of antivaccinationists might be It proposed that a petition be sent to the lower house demanding a revision of the bill

Dr Heynsius van den Berg, director of the association for combating tuberculosis, has published a report on the favorable situation in Amsterdam which resulted from introducing hygienic measures and from the improvement in the food situation since the war closed

Of the new cases of tuberculosis that came to the attention of the consultation bureaus in 1922, 44 per cent developed in the family of a tuberculous person The results of the Pirquet test during the period 1919-1922 showed that the belief that tuberculous infection after the age of 15 is universal in large cities is not true of Amsterdam, where the percentage of positive reactions after this age was 80 8

While the center of Amsterdam has the aspect of a metropolis, the highest mortality from tuberculosis is not found in the center of the city but in the more remote sections In spite of improvement in the housing situation, there were still many families at the close of 1922 that were confined to one room

## BUCHAREST

*(From Our Regular Correspondent)*

May 21, 1924

### The Spread of Venereal Diseases Among Boys

According to the statistics of the venereal clinics, compiled by the board of health, a great percentage of venereal patients is recruited from the students of the secondary schools The matter is the more serious, as most of them, according to the medical reports, get to the clinics when their disease is so far advanced as to render their sure and quick healing almost impossible The school authorities conferred with hygienists, and agreed that the excessive spread of venereal disease, which has occurred also in several other countries, is an aftermath of the war They agreed that vice does not originate from individuals, but from the age period It was their belief that the introduction of weekly medical examinations in the upper school classes, as among the military, would lead to early discovery of the diseases, insuring better results in treatment The examinations should be performed by medical men and not by teachers, as formerly Precautions should be taken lest students hide It has been noted that healthy children presented themselves, but the sick ones stay away, fearing that their parents will be made aware of their condition It was advised that the subject of venereal diseases be taught in the higher classes, with means of protection It would be left to the discretion of the teacher to avoid offending the modesty of the students Children should be examined singly, and in case of venereal disease the source should be ascertained, that the infected person might be treated in a suitable hospital

### The Ravages of a Mad Wolf

In a village near Turda, a large wolf from the mountains bit several dogs and some people on the night of March 15 The beast was finally killed, though the village was in an annexed district, where the keeping of arms is prohibited Examination disclosed that the wolf had rabies All bitten persons were sent to the Pasteur institute at Cluj After the completion of treatment and having returned home, four, who had had very severe wounds on the head or on the back, near the vertebral column, again presented symptoms of rabies One ran into the forest, where he was found dead

### Drawbacks of Centralization in Workman's Insurance Offices

Transylvania, now a possession of Roumania, had an efficacious workmen's insurance system before the war, copied from the German and English systems The workmen had an excellent medical service with free medical choice, and any kind of medical or surgical treatment was available Roumania, however, suspended the system of autonomy and introduced central management This system has led to great dissatisfaction In the case of urgent need for an expensive artificial limb, for example, this could be given only after the preliminary approval of the Bucharest central office, which worked very slowly The postal service is still slower The

government refused to restore autonomy, but made some concessions The result is that a once excellent institution is deteriorating For instance, the government issued an order a year and a half ago that the pharmacies of the workmen insurance ambulances be closed and the sick people allowed to choose any pharmacy they wished The order aroused general rejoicing among workmen, because, apart from the fact that these district pharmacies do not contain suitable medicines, it was a great bother for the sick to go to the insurance pharmacy which is open only at certain hours But before the order came into force, it was withdrawn The patients also are not satisfied with the physicians The insurance fees paid by members are high, and the physicians get very low salaries, so that many good practitioners have withdrawn from the clubs The consequence is that many club members would rather go to private physicians than be attended by the insurance physicians

This is the situation in the cities In the provinces it is still worse Patients sent to villages for change of air are complaining of hunger Medical attendance is deficient, in fact, the activity of the insurance is nothing but the collecting of fees and the bookkeeping Sickness support is not paid regularly, and sometimes weeks pass before a disabled man gets the pension that is due on the first of the month There are places, for instance, Vilinga, where there are more than 2,000 forest workmen, and no insurance physician at all The salary is so small that nobody cares for the position There are other complaints, too, with regard to certifying a man's disability after an accident When the insurance offices had autonomy, they did this themselves, such an office having been in every large town Since centralization was imposed, every case has to be certified in Bucharest As some applicants would have to travel distances requiring a trip of from twenty-six to thirty hours, with the attendant high fare, it is easy to believe that some of the disabled would forego their pension rather than make the long journey

All these complaints have been placed before the minister of public welfare in a memorandum He has directed a member of the supreme sanitary council to draft a new bill, on a more enlightened basis He will place the bill before parliament as soon as possible, and he informed the press that the present conditions will not last long

### A Curious Case of Alleged Professional Indiscretion

In a large city of Roumania, a married man who had gonorrhea was treated by a specialist Owing to frequent interruption, the treatment lasted more than three months, without the disease being healed The patient tried another specialist without having settled the bill of his former medical attendant The physician waited six weeks, although it is the custom, approved by the Roumanian Medical Association, to present bills immediately after the termination of a case, and if a long treatment is in prospect, that the physician shall receive an advance covering about half the amount in prospect The physician in question sent a bill to the patient, unluckily, it was received by the wife, who reproached her husband, and the matter ended in a divorce The husband sued the physician for damages, accusing him of professional indiscretion, on the ground that a venereologist ought not to use bill heads displaying his specialty, particularly if he sends the bill to a married man The physician replied that the patient knew he had to pay for the treatment, the more so as the physician met the patient on the street and told him that it was not nice to interrupt the treatment without having settled the bill first The patient asked the amount he owed, and promised to send it the same day This he did not do, and the physician waited six weeks, which was plenty of time The patient should have foreseen that a bill would be sent to him The designation of venereologist on the bill, he asserted, was discreet enough, as its meaning is not known to 990 out of 1,000 women A man with a wife so highly educated as to know this word ought to have been cautious enough to avoid the possibility of the bill's being sent The patient protested that the city was not so large that everybody in it did not know who the venereologists were, and that even if his billhead did not contain the appellation, his wife would have known The court accepted the defense of the physician, and ordered that the patient pay his debt in eight days, together with the legal costs of the case

### Position of Pharmacists in the Annexed Parts of Roumania

In the annexed parts of Roumania, particularly in Transylvania (with a population of about four million), recently a part of Hungary, a pharmacy could be opened only with the permission and approval of the ministry of health, on the ground that a pharmacist needs a long period of study before beginning practice, and the great responsibility demands that he shall be discriminated from a merchant or a druggist The ministry has granted licenses on the basis of one pharmacy for every 4,000 or 5,000 inhabitants in towns, thus insuring their prosperity The licenses have been of two kinds with real rights and with personal rights The former were granted in older times, and meant that the pharmacy could be owned by any one to whom the original license holder or his successor sold it, the sanitary law demanding only that the pharmacy be managed by a duly qualified man, with qualified assistants A license with personal rights differs from this only in that it can be owned only by a duly qualified pharmacist Naturally enough both represented a fairly high value because, in case the owner died, the pharmacy could be sold for a considerable sum, insuring a livelihood for the owner's family Since Transylvania came under Roumanian law, conditions have changed, as the Roumanian law does not license pharmacies, pharmacy being free, as in France, where a pharmacist may open a pharmacy wherever he likes This, of course, lessens the value of the pharmacies that were bought from a license holder, sometimes at a high price, because now any pharmacist may open a pharmacy next door The Roumanian laws prescribe that the pharmacies that were held by personal right licenses are not transferable after the death of the owner, but are under the disposition of the state About 900 families are affected by this, and an attempt is being made to avoid the application of the law This attempt will probably succeed, as the Roumanian government has guaranteed the preservation of the Hungarian sanitary system and laws for a transitional period of ten years

### Physicians in the Chamber of Deputies

Sanitation and the affairs of the medical profession are step children of legislation This was the conclusion reached at a recent meeting of the Oradea Mare branch of the medical association Rooms in physicians' dwellings are being requisitioned Young practitioners are unable to get a dwelling on account of the great scarcity of substantial houses, while officials of the state get dwellings through requisition Physicians are charged exorbitant taxes on their earnings, the rate being from 10 to 12 per cent of the income Physicians are charged the highest tariff for telephones, just as are merchants or banks, while a private party pays only one third The statement was made that these things would not happen if the medical profession were represented in parliament A resolution, therefore, was passed calling on all branches of the medical association to choose medical candidates, and to support them at the approaching general elections In Roumania there are many physicians in responsible offices, including several county prefects, it may be hoped, therefore, that the profession will succeed in electing ten or fifteen deputies

## Marriages

RAMSAY SPILLMAN, Washington, D C, to Miss Margaret Eleanore Kimmel of Fort Hamilton, N Y, May 12

JAMES M FADELEY, Washington, D C, to Miss Marian Parker of Berryville, Va, at New York, May 2

THEODORE W KEMMERER, Washington, D C, to Mabel Clare Williams, Ph D, of Iowa City, June 4

SIDNEY B TRATTNER to Miss Leah Whitlock Binswanger, both of Richmond, Va, May 5

PAUL E SPANGLER, Boston, to Miss Clara Wise Raymond of Cambridge, N Y, June 11

JOSEPH CLEMENT MICHAEL to Miss Blanche MacCarthy, both of Minneapolis, May 17

SOLOMON GILMORE PONTIUS to Miss Helen Hohman, both of Lancaster, Pa, April 5

ROYAL STORRS HAYNES to Miss Pauletta Lacosta, both of New York, June 11

THOMAS HULICK to Miss Augusta B Reese, both of Cincinnati, June 5

## Deaths

**James Bozeman Baird** ⊕ Atlanta, Ga, Bellevue Hospital Medical College, New York, 1871, formerly professor of principles and practice of medicine at the Atlanta College of Physicians and Surgeons, past president of the Medical Association of Georgia, at one time member of the board of health, and state board of medical examiners, on the staff of the Grady Hospital, aged 75, died, June 6

**Charles Farmer** ⊕ Louisville, Ky, Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1897, adjunct professor of abdominal surgery and gynecology at the University of Louisville Medical Department, past president of the Jefferson County Medical Society, veteran of the Spanish-American and World wars, aged 55, died, June 8

**Beverley Robinson,** New York, University of Paris, France, 1872, emeritus clinical professor of medicine at the University and Bellevue Hospital Medical College and consulting physician to St Luke's and the City hospitals, author of the "Treatment of Ordinary Diseases" and other works, died, of arteriosclerosis and chronic heart disease, June 21, aged 80

**Ambrose Burdett Crain** ⊕ Belton, Texas, Medical Department of the Tulane University of Louisiana, New Orleans, 1908, served in the M C, U S Army, with the rank of captain, during the World War, for ten years county health officer, aged 40, died, June 3

**Charles W Williamson,** Poplar Bluff, Mo, Beaumont Hospital Medical College, St Louis, 1887, member of the Missouri State Medical Association, aged 62, died suddenly, June 3, at St Louis, of heart disease

**James Murry Gallison** ⊕ Boston, Medical School of Harvard University, Boston, 1908, on the staff of the New England Deaconess Hospital, aged 45, died, June 14, of a skull fracture, received in a fall

**Henry H Jones,** Dunmore, W Va, University of Maryland School of Medicine, Baltimore, 1867, member of the Virginia State Medical Association, Civil War veteran, aged 84, died, May 11, at Mebane, N C

**Joseph Albert Seligman, Baltimore,** University of Maryland School of Medicine, Baltimore, 1892, member of the Medical and Chirurgical Faculty of Maryland, aged 58, died, June 13, of heart disease

**John Alexander MacCaskill,** Barre, Vt, University of Vermont College of Medicine, Burlington, 1920, member of the Vermont State Medical Society, aged 27, died, May 29, following a long illness

**Giovanni Merenna,** Brooklyn, Medical Department of Columbia College, New York, 1893, member of the Medical Society of the State of New York, aged 61, died, June 4, following a long illness

**Henry Allen Halsey** ⊕ Wyoming, Ohio, Rush Medical College, Chicago, 1907, served in the M C, U S Army, during the World War, aged 41, died, June 6, at the Jewish Hospital, Cincinnati

**John Andrew MacDonald,** Montreal, Que, Canada, McGill University Faculty of Medicine, 1880, aged 67, died, May 8, at the Royal Victoria Hospital, following an operation for appendicitis

**Travis Raybourne Black,** Clarksville, Texas, Memphis (Tenn) Hospital Medical College, 1898, served in the M C, U S Army, during the World War, aged 51, died, February 28

**Archibald Dixon,** Henderson, Ky, Louisville Medical College, 1877, member of the Kentucky State Medical Association, formerly county health officer, aged 80, died, June 9

**Adelaide Mary Tyrell** ⊕ Chicago, University of Illinois College of Medicine, Chicago, 1909, aged 62, died, June 5, at the Henrotin Hospital, of pneumonia, following an operation

**Charles James Maxwell,** Hinsdale, Mass, Baltimore (Md) Medical College, 1909, member of the Massachusetts Medical Society, aged 39, died, June 4, following a long illness

**John B Coakley,** Buffalo, Medical College of Virginia, Richmond, 1861, member of the Medical Society of the State of New York, Confederate veteran, aged 85, died, June 4

**Charles Darwin Carpenter,** Walton, Ind, Medical College of Ohio, Cincinnati, 1872, member of the Indiana State Medical Association, aged 75, died recently, of heart disease

**Augustine Claiborne Somervill,** Mason, Tenn, University of Pennsylvania School of Medicine, Philadelphia, 1858, Civil War veteran, aged 88, died, May 17, of senility

**William Herbert Pepler,** Toronto, Ont, Canada, Trinity Medical College, Toronto, 1885, L R C P and L R C S, London, Eng, 1887, died suddenly, April 30

**Taylor J Bingham,** Philo, Ohio, Columbus Medical College, 1880, member of the Ohio State Medical Association, aged 76, died, May 25, of heart disease

**Parker Nathaniel Balcom,** Aylesford, N S, Canada, Medical Department of the University of the City of New York, 1875, aged 74, died, April 28

**Henry Stafford Whisman** ⊕ San Francisco, Johns Hopkins University Medical Department, Baltimore, 1915, aged 34, died, May 15, at San Jose

**John Emmett Walsh,** Highland, Wis, University of Illinois College of Medicine, Chicago, 1910, aged 42, died, May 27, of cerebral hemorrhage

**John A Campbell,** Oak Park, Ill, Chicago Homeopathic Medical College, 1879, aged 69, died, June 15, of inanition and senile dementia

**William C Cullom,** Mesquite, Texas, University of Nashville (Tenn) Medical Department, 1872, aged 71, died, April 23

**William Dominick Finn,** Halifax, N S, Canada, Medical Department of Columbia College, New York, 1890, died, April 13

**John A Capp,** Lancaster, Pa, University of Pennsylvania School of Medicine, Philadelphia, 1878, aged 75, died recently

**Charles Edward Sugden,** Winnipeg, Man, Canada, Chicago (Ill) Homeopathic Medical College, 1894, aged 53, died, May 12

**D S Talbot,** Appleton City, Mo, Eclectic Medical Institute, Cincinnati, 1889, aged 77, died, April 16, of heart disease

**George Lamond Winn,** Rockford, Ill, Chicago Medical College, 1876, aged 73, died, June 9, at Two Rivers, Wis, of senility

**Brice Howard Elder,** Peoria, Ill, Indiana Medical College, Indianapolis, 1878, aged 75, died, June 15, following a long illness

**Miles H Alderson,** Salina, Kan, University of Louisville (Ky) Medical Department, Louisville, 1867, aged 82, died, June 5

**Peter M Menefee,** Eureka, Calif, St Louis (Mo) Medical College, 1871, aged 82, died, May 2, of bronchopneumonia

**William Bradley Clarke,** Pittsburgh, Chicago (Ill) Homeopathic Medical College, 1884, aged 76, died, June 7

**Robert Thompson Stratton,** Oakland, Calif, Jefferson Medical College of Philadelphia, 1886, aged 62, died, May 5

**Francis P McCormick,** Seattle, University of Michigan Medical School, Ann Arbor, 1883, aged 64, died, June 1

**Georgia Sackett Ruggles,** Los Angeles, Woman's Medical College of Chicago, 1883, aged 73, died, May 23

**Edwin Rodd** ⊕ Detroit, Detroit College of Medicine and Surgery, 1893, aged 62, died, June 3

# Correspondence

## THE PRESCOTT COFFEE REPORT

*To the Editor* —This is a criticism of Prof Samuel C Prescott's coffee report, which was presented to the "Joint Coffee Trade Publicity Committee" meeting in Boston, Oct 17, 1923, and was later published

Professor Prescott, after a three-year research at the Massachusetts Institute of Technology, at a cost to the coffee people of about $40,000, issued a report in which this statement appears on the first page "It was understood from the start that this work should be conducted scientifically

Whether the findings were pleasant or unpleasant, no scientific worker can afford to temporize with truth" Farther on he states that "in the dispassionate study of the vast literature on the subject, much of which was medical literature" he has come to the "conviction that for the overwhelming majority of adults coffee is a safe and desirable beverage" This sentence has been enormously broadcast to the people of the United States

Professor Prescott apparently took no notice of the harm that coffee can do, as certified to by Sollmann, by Hatcher, by Wood, by Cushny, by Hare, by me and by many others It certainly was not "scientific" to omit entirely reference to some of these books, which so positively assert the harm that caffein can do to some persons in small amounts and to many persons in large amounts

The few restrictions that Professor Prescott mentions in the body of his report were never listed in the advertisements issued by the "Coffee Publicity Committee," and as these advertisements were repeated for several months, apparently Professor Prescott did not object to the omission of his restrictions Professor Prescott, and his $40,000 research, were made in these advertisements to declare scientifically (?) the harmlessness of coffee, and therefore caffein

On page 21 of his report, he likens the action of caffein to the lubrication of machines, as increasing the mental and physical work of the individual Priority must be given to Hare, who in the 1918 edition of his book on "Practical Therapeutics" states that caffein "acts as a lubricant does on machinery" He did not note Hare's statement on the next page of his book that "in certain persons the habitual use of coffee in excess in the presence of overwork and lack of sufficient rest and food may result in insomnia, tremors, palpitation, tinnitus aurium, gastralgia and emaciation," and that caffein has been known to cause delirium closely resembling that of alcoholism

The simile of lubrication is, of course, a bad one, as a properly lubricated machine runs more smoothly and without friction, while a person who is stimulated by coffee runs at a higher speed, and, unless his mechanism is perfect, there will be increased friction and increased wear and tear on the nervous and circulatory systems

Professor Prescott also states that coffee "does not draw on the physical reserve of the body" I know no authority for this statement Coffee gives nothing to the body, but does draw on the physical reserves, as do all stimulants Coffee is not a food, and, as Cushny states, "it has been shown conclusively that, far from lessening the metabolism of the body, coffee and tea increase it" Therefore, coffee is a promoter of waste and uses up reserves It adds nothing to the body, but whips it up, like thrashing a tired horse, which is in need of rest and food If a tired person continues this whipping process with coffee, he will soon find that many unpleasant symptoms develop, such as digestive disturbances, nervous irritability, heart irritability, and sleeplessness

Professor Prescott states in this report that "caffein has no depressive after-effects, whereas all other stimulants have" He forgets that strychnin is in the same class, but the overuse of either caffein or strychnin can soon tire the system and cause unexpected overaction He later states that caffein is not a "drug" or a "narcotic poison" Of course, this is a joke for the general public, as no medical man, no laboratory expert, and no chemist would ever term caffein a narcotic poison, and of course caffein *is* a drug, from the standpoint of its use for medicinal purposes Prescott, of course, knows this, and doubtless used the phrase not a "drug" for the coffee advertisers to use as a catch phrase to the laity, showing that caffein is not in the dope class

He also states that caffein is not habit forming in the sense that constantly increasing quantities are required This is true, but almost every person who drinks his coffee regularly knows that he seriously misses it if he omits it from his diet

In the report appear some restrictions, such as "Not all individuals have the same caffein tolerance," and some hypersensitive individuals should not drink it, and some have idiosyncrasy against it None of these restrictions appeared in any of the coffee advertisements

He also states that "the average cup of strong coffee contains from 1½ to 1¾ grains of caffein This is ample in some individuals to give a quicker heart beat, hence increase the circulation and activates more pronounced mental processes Other individuals may require two or four times as much to provide the same stimulation" Again he shows the drug activity of the caffein in coffee He also found, experimenting on animals, that the condition of the animal had considerable to do with the activity of the caffein This caution was not broadcast to the public

He studied the literature on coffee in five different languages, he states, and apparently found no harm from coffee Whether coffee was perfectly harmless in any amount for the people of other ages, of other nations, of other climates, of other races, can have no bearing on the amount of coffee that the people of the United States may drink with safety at the present era of nervous irritability

Professor Prescott's $40,000 investigation did not discover what it is that renders the caffein in coffee less active than caffein administered as an alkaloid, which would have been very desirable knowledge to acquire

The investigation also did not disclose the standing of the "caffetannic acid," which he simply accepts as a finding of many chemists

In other words, this enormous and expensive investigation did not result in anything new in regard to coffee or caffein pharmacologically or therapeutically, but did result in an enormous propaganda to promote the increased sale and consumption of coffee, and this propaganda can do great harm to a large number of people of the United States, who cannot and should not drink coffee as a beverage

OLIVER T OSBORNE, M D, New Haven, Conn

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**Capillary Pulsation**—The capillary pulsation of aortic disease may appear in any part of the skin of the body under suitable conditions Thus it can be induced almost anywhere by friction or the application of heat Looking at the skin in cases of free aortic regurgitation as these come to an outpatient department, there are a few areas where capillary pulsation is usually distinctly visible without touching the skin, these are the forehead and cheeks In some cases, not so uncommon as they are usually believed to be, the reddening of the face with each systole and its paling with each diastole are so distinct that they may be visible at a considerable distance from the patient I have seen a few instances in which the spontaneous flush was visible over the whole hand—Lewis, T Studies of Capillary Pulsation, *Heart* **11** 151 (April) 1924

# Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed Every letter must contain the writer's name and address, but these will be omitted, on request

## TOXICITY OF GASOLINE

*To the Editor* —Are gasoline fumes or vapor toxic, and if so in what way do they manifest their toxic properties? We have a death certificate signed giving, as the cause of death, exposure to gasoline fumes The exposure occurred on Monday, and the following Sunday the patient died He is said to have had during these days attacks resembling angina pectoris

R H DENHAM, M D, Grand Rapids, Mich

ANSWER —Benzin (gasoline, naphtha) vapors are toxic The effects of acute poisoning from inhaling moderate amounts of benzin resemble mild alcohol intoxication, in dry cleaning plants it is sometimes spoken of vernacularly as "naphtha jag" According to Alice Hamilton (Industrial Health, edited by George M Kober and Emery Hayhurst, Philadelphia, P Blakiston's Son and Company, 1923, p 497), the complaint is usually of nervous symptoms, such as pricking and crawling sensations, headache, poor sleep, drowsiness, twitching muscles, coldness and numbness in fingers and toes, digestive symptoms, loss of appetite, indigestion, colic, and loss of weight In still more serious cases, which are rare in proportion (Lewin, ibid ), states that there is a rapidly increasing weakness, quick and weak pulse, labored respiration, delirium and coma

Cases of death due to vapors from benzin itself are exceedingly rare

Sometimes the products of partial combustion of benzin are erroneously called "gasoline fumes," when in reality they contain carbon dioxid and the very toxic and frequently fatal gas carbon monoxid

## THERAPEUTIC LAMPS

*To the Editor* —Will you kindly tell me what is the actual therapeutic value of the therapeutic lamp? How does it compare with the Kromayer lamp or the Alpine sun lamp? Are there advantages of one over the other? Any authoritative information, as well as reference to articles by competent men, will be appreciated

JOHN Z MRAZ, M D, Oklahoma City

*To the Editor* —I notice you carry an ad of both burning and non burning ultraviolet lamps Which one gives the better therapeutic results?

J A BURNETT, M D, Crum Creek, Okla

*To the Editor* —Will you kindly let me know your opinion on infra red therapy and give me, if possible, a brief résume

KARL W SMITH, M D, Madison, Wis

*To the Editor* —A recent number of THE JOURNAL contained an ad of the "ultra sun lamp" Can you supply me with any information concerning this lamp? What I wish to know is whether this lamp is equal in therapeutic value to other ultraviolet ray lamps The feature of this type is supposed to be "nonburning" when used over a long period, however, I wish to know the therapeutic value

F B SCHROEDER, M D, Princeton, Ill

ANSWER —The Kromayer water-cooled mercury-quartz light and the Burdick and Hanovia mercury-quartz lights are all considered sources of ultraviolet radiation of strong intensity, emitting a large quantity of long and short ultraviolet wave lengths In contrast to this, carbon arc lamps, of which the ultra-sun lamp is an example, are used more particularly for the rays present similar to those in the spectrum of sunlight, namely, the invisible heat wave lengths, the visible rays and the longer ultraviolet rays The nonburning feature of the ultra-sun lamp is due to the practical absence or very weak intensity of the short ultraviolet rays, which are the wave lengths that irritate and easily produce an erythema

The advertisers of the ultra-sun lamp stress the fact that the spectrum of their lamps is a continuous one, whereas the spectrum of the mercury quartz lights has gaps This is true No one has yet proved, however, that the presence of gaps in a spectrum is a drawback in the clinical use of that light Furthermore, no one has proved that the burning or erythema-producing rays of the mercury-quartz lights are disadvantages It is possible that the erythema-producing rays are even valuable for clinical effects in various disease manifestations

As to the therapeutic value of the carbon arc lamps, it cannot be said that these lamps are less valuable than the mercury-quartz lamps for certain diseases There are special indications for different sources of light, but the exact indications have not yet been worked out For superficial disease, such as superficial tuberculosis, it is probable that with proper application the shorter ultraviolet rays of the mercury-quartz lights can prove most helpful For rickets and tetany, both sources of radiation have demonstrated their worth For extrapulmonary tuberculosis, such as of bones and joints, intestines, peritoneum and lymph nodes, both sources of light have had strong adherents and have shown their value The enthusiasts for solar treatment will insist that a spectrum closely approximating that of sunlight is necessary, and therefore they particularly advocate carbon arc lamps Others, who have had favorable results with mercury-quartz lights, can give important evidence in their behalf and argue against the need of a spectrum similar to that of sunlight

Some disadvantages of carbon arc lamps include the emission of sparks, formation of soot, added expense of running the lamp, and the need of longer durations of exposures

The physician may decide for himself the advantages of purchasing one lamp over another, depending chiefly on the conditions to which he wishes to apply the method

## KETOGENIC ANTIKETOGENIC RATIO

*To the Editor* —Will you state in Queries and Minor Notes just what is meant by the term "ketogenic antiketogenic ratio" as used in discussing diabetes? Also give accepted formulas

H H B

ANSWER —By "ketogenic-antiketogenic ratio" is meant the proportion between substances that form glucose in the body and those that form fatty acids The importance of this ratio lies in the fact that, both in normal and in diabetic metabolism, fat is oxidized only in a definite mathematical proportion to the amount of glucose oxidized If extra fat is burned, the oxidation is incomplete, and "acidosis" occurs, first made manifest by the appearance of acetone in the urine This will occur in normal persons if, for any reason, carbohydrate is withdrawn, or in diabetic patients when the capacity to burn carbohydrate is so diminished as to furnish insufficient amounts of oxidized glucose for the amount of fat Thus, in the treatment of diabetes a mathematical ratio is necessary

It is now generally accepted that glucose is derived not only from carbohydrate but also from protein and from the glycerol fraction of fat Fatty acids (the precursors of acetone) are derived from fat and from protein Woodyatt's formula based on these statements is

G (Glucose) = Carbohydrate + 0 58 Protein + 0 1 Fat
F A (Fatty acid) = Fat + 0 46 Protein

$$\frac{F\ A}{G} = 1\ 5$$

Other formulas have been devised Ladd and Palmer recommend a simpler method of calculation, which is based on previous work of Celler The glucose (antiketogenic) fraction is carbohydrate + 0 58 protein, the ketogenic is just fat, and the proportion is

$$\frac{F}{G} = \frac{2\ 5 - 4}{1}$$

The amount will vary with individual patients

## VEHICLES FOR PRESCRIPTIONS

*To the Editor* —Some years ago (when the American Medical Association held its annual session in Chicago last time), the department of pharmacy exhibited a quantity of elegant vehicles These were, of course, official The object, I remember, was to show the profession that there were plenty of elegant and refined vehicles without buying the special preparations from the manufacturing companies I wish that I had that list, or perhaps you know of some publication dealing with the subject of pleasant preparations

H M HICKS, M D, Amsterdam, N Y

ANSWER —The following is a list of the vehicles exhibited at the annual session of the American Medical Association in 1918

Aqueous Elixir of Glycyrrhiza, N F
*Compound Elixir of Cardamom N F
Compound Elixir of Almond, N F
Compound Elixir of Vanillin, N F
Glycerinated Elixir of Gentian, N F
*Elixir of Anise N F
*Red Aromatic Elixir, N F
Compound Syrup of Asarum, N F

There were also exhibited Aromatic Syrup of Senna and Aromatic Syrup of Rhubarb, which, of course, are not mere vehicle preparations

The formulas may be found in the Epitome of the Pharmacopeia of the United States and the National Formulary, published by the American Medical Association Those with an asterisk may be prescribed only in according with the rules governing intoxicating liquors

# Medical Education, Registration and Hospital Service

## COMING EXAMINATIONS

ALABAMA Montgomery, July 8 Chairman, Dr S W Welch Montgomery
CALIFORNIA San Francisco July 7 10 Sec, Dr Charles B Pinkham, 908 Forum Bldg Sacramento
COLORADO Denver July 1 Sec Dr David A Strickler, 612 Empire Bldg Denver
CONNECTICUT Hartford July 8 9 Sec, Regular Board Dr Robert L Rowley 79 Elm St, Hartford
CONNECTICUT New Haven, July 8 Sec, Homeopathic Board Dr Edwin C N Hall, 82 Grand Ave, New Haven, Sec, Eclectic Board, Dr James E Hair, 730 State St New Haven
DISTRICT OF COLUMBIA Washington July 8 Sec, Dr Edgar P Copeland Apt 104, Stoneleigh Court Washington
HAWAII Honolulu July 14 17 Sec, Dr G C Milnor, 401 Beretania St Honolulu
INDIANA Indianapolis, July 8 10 Sec, Dr William T Gott, No 333 State House Indianapolis
MAINE Augusta July 15 16 Sec Dr Adam P Leighton Jr, 192 State St, Portland
MASSACHUSETTS Boston July 8 10 Sec, Dr Charles E Prior, Room 144 State House, Boston
NEW MEXICO Albuquerque, July 14 Sec Dr W T Joyner, Roswell
NORTH DAKOTA Grand Forks, July 1 4 Sec Dr G M Williamson, Grand Forks
OKLAHOMA Oklahoma City, July 8 9 Sec Dr J M Byrum, Shawnee
OREGON Portland, July 1 3 Sec Dr Urling C Coe, Stevens Bldg, Portland
PENNSYLVANIA Philadelphia and Pittsburgh, July 8 12 Sec Dr George Becht, Harrisburg
RHODE ISLAND Providence July 4 5 Sec Dr B U Richards, State House Providence
SOUTH DAKOTA Sioux Falls, July 15 Director, Division of Medical Licensure, Dr H. R Kenaston, Bonesteel
UTAH Salt Lake City July 1 Director of Registration, Mr J T Hammond Salt Lake City
WASHINGTON Olympia July 8 Sec Mr Wm Melville Olympia
WEST VIRGINIA Martinsburg July 8 Sec, Dr W T Henshaw, Charleston

## AN EXPERIMENT IN INTERDEPARTMENTAL CORRELATION *

W F PETERSEN, M D
CHICAGO

In view of the interest aroused by the recent discussions by Flexner, Cushing, Edsall and Wilbur concerning medical education and the very definite effort that is being made to integrate the preclinical and the clinical years, it may not be amiss to present a brief outline of an interdepartmental course as offered at the University of Illinois during the last year The objectives were threefold To present a clinical subject in a well rounded but concise fashion and in logical sequence to students early in their course (second year), secondly, to interest the preclinical instructors in the clinical work and the clinical men in the recent developments of the underlying sciences, and finally to determine the desirability or the feasibility of the further development of such courses in the curriculum We have been impressed with the reasons advocated for bringing about earlier contact with clinical medicine Elemental pedagogy would seem to demand a measure of such a tonic without for an instant detracting from the propriety of teaching the fundamental sciences as sciences rather than a adjuncts of the clinics Neglect of this stimulus has, it would seem to us, made automatons of many students in their preclinical years

We have had approximately ninety hours available at the end of the sophomore year, and have selected the subject of nephritis as optional for a group of twenty students Nephritis was selected because of its fundamental importance for the student, because of its manifold contacts in all departments of medicine, and because it is usually considered a difficult subject to teach Other diseases that would have been more readily presentable might have been chosen

The material was presented in the form of lectures, clinics, dispensary demonstrations, laboratory work and demonstrations, and student seminars The arrangement was as given in the accompanying schedule The seminars usually preceded the formal presentation of the subject, and prepared the student so that an informal discussion with questions might follow after each lecture or clinical demonstration

We have found that a course of this nature is quite feasible, if guided by an instructor responsible for its management It involves no great hardship on the full-time staff or on the clinical instructors Indeed, in many instances the optional group was merely taken into advanced clinical courses so timed that the subject of nephritis was scheduled to fit into the proper date There was every evidence of whole-hearted cooperation on the part of the clinical instructors

*Schedule*

| Subject | Presentation | Lecturer | Department |
|---|---|---|---|
| Introduction historical | Lecture | Petersen | Pathology |
| Acute nephritis | Clinic | Williamson | Medicine |
| History uroscopy etc | Lecture | Petersen | Pathology |
| Chronic nephritis | Clinic | Williamson | Medicine |
| Embryology | Lecture | Weatherford | Anatomy |
| Microscopic anatomy | Lecture demonstration | Eycleshymer | Anatomy |
| Chronic nephritis | Dispensary clinic | Moore | Medicine |
| Chemistry of Normal metabolism | Lecture | Welker | Physiologic chemistry |
| Physiology of the kidney | Lecture demonstration | Dryer | Physiology |
| Chemistry of blood and urine | Lecture | Welker | Physiologic chemistry |
| Physiology of urine secretion | Lecture | Richards U of Pa | (Guest) |
| Hyperpiesis | Dispensary clinic | Moore | Medicine |
| Capillary microscopy | Laboratory demonstration | Brough | Pharmacology |
| Pathology of nephritis | Lecture | LeCount, U of C | (Guest) |
| Pathology of nephritis | Lecture demonstration | Jaffe | Pathology |
| Infection and nephritis | Lecture | Davis | Pathology |
| Experimental nephritis and edema | Lecture demonstration | Petersen | Pathology |
| Experimental nephritis and edema | Lecture demonstration | Levinson | Pathology |
| Blood chemistry in nephritis | Lecture laboratory | Hughes | Physiologic chemistry |
| Blood chemistry in nephritis | Lecture laboratory | Hughes | Physiologic chemistry |
| The urine in nephritis | Lecture laboratory | Pilot | Pathology |
| Renal function tests | Clinic demonstration | Culver | Urology |
| Pharmacology of the kidney | Lecture demonstration | McGuigan | Pharmacology |
| Uremia | Lecture | Petersen | Pathology |
| Differential diagnosis of kidney diseases | Lecture | Saelhof McCormick Institute | (Guest) |
| Nephritis in children | Clinic | Hess | Pediatrics |
| Cardiorenal disease | Lecture | Tice | Medicine |
| Ophthalmology and nephritis | Lecture clinic | Brown | Ophthalmology |
| Nephritis and pregnancy | Lecture | Bacon | Obstetrics |

The students have shown decided interest The idea, so frequently advanced, that the second year student is not sufficiently prepared to understand clinical subjects seems to us both fallacious and pernicious The material presented has not been beyond their comprehension On the contrary, their seminar discussions have demonstrated that their grasp of the subject has been excellent

As a result of our experience, we hope ultimately to develop courses of this character to a considerable extent With a small student body and an adequate full-time staff, much of the material now crowding the fundamental courses might profitably be presented in courses of this character, which bring about a close coordination of the basic biologic phenomena underlying clinical manifestations of disease

* From the University of Illinois College of Medicine

parts into the external world" In an attempt to make the book complete, there are discussions of all the various forms of anesthesia used during labor The following statement appears concerning ethylene "Ethylene is the very latest anesthetic It is a gas and is used like nitrous oxid It smells like garlic and is inflammable, but is said to possess many virtues" It might have been better not to mention ethylene, if nothing more than this was to be said for it The volume is completed by full discussions of apparatus used during labor, various solutions and recipes, as well as a complete glossary and a series of outlines of the theory of obstetrics This book is, on the whole, a thoroughly reliable and adequate work, and may be recommended to all requiring a textbook of this character

HEARING By Robert Morris Ogden, Professor of Education in Cornell University Cloth Price, $3 50 Pp 351, with 18 illustrations New York Harcourt, Brace & Co, 1924

While ostensibly written for the lay reader, this volume will appeal more particularly to the psychologist, the teacher and student of music, and specialists in diseases of the ear It is written without regard to lay readers' knowledge of physics and physiology, and is therefore beyond the average comprehension It is nevertheless a complete study of the physics of sound, of musical sounds, of rhythm, cadence and linguistic sounds A special chapter on the pathology of hearing gives in simple form the fundamental tests used by otologists and the common pathologic conditions associated with defects of hearing Emphasis is laid especially on the necessity of psychologic as well as physiologic determinations The final chapter deals with musical education and offers many practical hints

BLOOD PRESSURE, CAUSE, EFFECT AND REMEDY By Lewellys F Barker, M D, and Norman B Cole, M D Cloth Price, $1 25 Pp 154 New York D Appleton & Co, 1924

This volume aims to be an outline in readable English of important facts regarding blood pressure It includes not only the facts regarding the effects of high and low blood pressure on the body, but also enough anatomic detail to permit some judgment by the layman of the way in which the symptoms are brought about The most important chapter, so far as the average reader is concerned, is the final chapter, "What to Do?" which includes simple directions for personal hygiene, and might well be used by any one, as well as those affected with disorders of blood tension The book is well written, and may safely be recommended to any lay reader

HANDBUCH DER RÖNTGENTHERAPIE Herausgegeben von Prof Dr Paul Krause, Geh Medizinalrat, Direktor der Medizin Universitats poliklinik in Bonn Lieferung 5 Die therapeutischen Röntgenbestrahlungen vom pathologisch anatomischen Standpunkte Von Dr P Prym, a o Professor an der Universität Bonn Paper Pp 311, with 44 illustrations Leipsic Werner Klinkhardt, 1924

The author's endeavor was to collect all the known facts concerning the changes following the irradiation of tumors For this purpose he scrutinized the world's literature on the subject, and he reports also the results of his own investigations The basic point of view of this study was to determine whether the structural peculiarities encountered were to be considered as produced by the irradiation or whether they were due to the spontaneous variation of the pathologic growths In myelotic leukemia, in spite of long continued intense irradiation, no histologic changes could be found that with any degree of certainty could be considered as a product of the irradiation The changes observed in the liver and spleen may possibly be adjudged to the influence of the rays, but changes of this character are known also to develop spontaneously The disease, as a whole, progresses in spite of all local changes In tuberculosis, only large doses of very hard rays seem to influence this process favorably As a result of the treatment, if successful, encapsulation of tuberculous foci and local cicatrization were observed A direct bactericidal action of the rays on the tubercle bacillus is, to say the least, doubtful The final histologic picture is identical with that of a spontaneous healed local tuberculosis Histologic changes in struma tumors due to irradiation could not be ascertained, but it is possible that pericapsular adhesions may have been produced Shrinkage of hyperplastic tissue in hypertrophy of the prostate could not be demonstrated Sarcomas are pronouncedly radiosensitive Ten hours after irradiation, the tumor cells are destroyed, giving a clear picture of karyorrhexis The first reactive changes of the fibrous tissue become evident a few weeks after the irradiation, to be followed later on by cicatrization and pigmentation Histologic investigation does not permit any definite conclusions concerning the effect of rays on uterine myomas The author is inclined to believe that in mammary cancer the roentgen rays primarily damage the cancer epithelium, which is followed by luxuriation of the fibrous tissue The detailed histologic structure of a mammary cancer does not furnish any pointers as to the possible expectations concerning the efficacy of irradiation In cancers of the cervix, the glands of the uterine mucosa appeared to be well preserved, while the cancer cells showed all signs of disentegration The author's general conclusions are that practically all changes in tumors observed after irradiation may also occur spontaneously, therefore such changes may not be considered as specific for the influence of therapeutic rays With the histologic methods available, we are not in a position to determine with any assurance whether a tumor was exposed to therapeutic rays or not The cells constituting a cancer are of different radiosensibility—the persistence of parts of the cancer in spite of the irradiation may be another example of the survival of the fittest The assumption of a so-called stimulating dose is doubtful Successful irradiaion is characterized by the destruction of the tumor cells, while the surrounding tissues are preserved as to their vitality For therapeutic purposes, the rays are to be selected with the purpose that the greatest possible number of tumor cells will be destroyed, while the vascularized fibrous tissue with its inherent defensive forces is preserved The latter are mobilized and reenforced by the disintegration of the tumor cells

DIETETICS FOR NURSES By Julius Friedenwald, M D, Professor of Gastro-Enterology in the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, and John Ruhrah, M D, Professor of Diseases of Children in the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore Fifth edition Cloth Price, $2 25 net Pp 474 Philadelphia W B Saunders Company, 1924

Any one who has attempted to teach dietetics to nurses soon realizes that his problem lies in telling them enough but not crowding too much To tell them enough requires careful pruning of the tree of dietetic knowledge to tell them too much results in a pitiable confusion It is much more important for the nurse to realize the general therapeutic importance of food than to understand the intricacies of metabolic processes, it is simpler to expect her to prepare a decent tray (under orders) than to plan a diabetic diet This book will help her along these lines Much "new" is purposely left out of the book until "the test of a few years of experience"

HYGIENE OF THE VOICE By Irving Wilson Voorhees, M S, M D, Assistant Surgeon to the Manhattan Eye, Ear and Throat Hospital Cloth Price, $2 50 Pp 212, with 18 illustrations New York the Macmillan Company, 1923

Dr Voorhees has given especial attention to the care of the voice, particularly in singers and public speakers, and he has contributed frequently on the subject both to medical and to lay literature He believes that training of the voice should be begun as soon as the child can use language intelligently, and that proper physical hygiene is necessary for the singer, as well as a special hygiene directed to the care of the throat A special section is devoted to the care of the common cold, and the great importance of neglecting simple laryngitis is emphasized Special sections are devoted also to the tonsils, to throat disorders in singers, to hay-fever, and to acute and chronic infections An appendix provides an outline for practice in breathing and in voice production The work is practical, scientific, and well worth the attention of any one interested either in musical education or in the care of the normal throat

# Medicolegal

### Negligence Imputable to Operating Surgeons

*(Aderhold et al v Bishop (Okla), 221 Pac R 752)*

The Supreme Court of Oklahoma says that the plaintiff, a school teacher named Bishop, employed the defendants, who were partners in the practice of medicine and surgery, to perform an operation for the removal of a goiter from which she was suffering The operation was performed at a sanatorium that was in fact a general hospital and training school for nurses, which provided all modern instruments of surgery, an operating room, and skilled nurses, but which had no medical staff and provided neither physicians nor surgeons While the plaintiff was on the operating table, a pan of hot water, which was kept replenished, was placed between her feet, and the head nurse immersed in the water and wrung out gauze cloths, which she handed to the operating surgeons to be used in taking up the blood that oozed from the incision It was afterward discovered that the plaintiff's feet and ankles had been severely burned either by the hot water dripping on them, or from the pan resting against them It was not denied that the burn was the result of a want of care on the part of the head nurse and other employees of the hospital in the handling of the pan of hot water This left the question of whether or not the admitted negligence of such general employees of the hospital was imputable to the operating surgeons, and this court believes that the question should be answered in the affirmative

While the head nurse and her assistants were the general employees of the sanatorium, they were nevertheless, during the time required for the actual operation, under the direction and supervision of the operating surgeons, and were the servants of the operating surgeons in respect to such services as were rendered by them in the performance of the operation, and for any negligence on the part of such employees in the performance of such services the operating surgeons were liable An examination of the authorities discloses to this court's satisfaction that the true test of the existence of the relation of master and servant in a given case does not depend on whether the servant was in the general employ of the master, but on whether the master actually exercised supervision and control over the servant during the time he used such servant A general master may lend the services of his employees to another for a specified purpose and for a short period of time, in which case the individual to whom such general services are let is the master and responsible for their negligent acts so long as he exercises actual supervision over them

This court can conceive of no instance in which the application of the doctrine of respondeat superior (let the master answer) could exercise a more salutary influence than in cases of damage arising out of surgical operations The patient is helpless under the influence of an anesthetic, and absolutely at the mercy of the surgeons performing the operation, and they are charged with the duty to see that no preventable injury results to their patient Under the modern science of surgery, a surgical operation, with modern hospital appointments, is a complex enterprise Necessarily, the various agencies that enter into it must be performed by different individuals, under the active supervision and direction of the operating surgeons in charge If the operating surgeons were not liable for the negligent performance of the duties of those working under them, the law in a large measure would fail in affording a means of redress for preventable injuries sustained from surgical operations

Furthermore, if these operating surgeons employed the services of the head nurse in the performance of the operation, which was not denied, then they were liable for her negligent conduct in respect of the part performed by her, irrespective of whether such services were those ordinarily given to a patient under like circumstances

This court is of the opinion that a case of liability was clearly shown, but that a verdict for $12 620 for the plaintiff was excessive on the facts shown, and that the judgment should be reversed, and a new trial granted, unless a remittitur was filed for all in excess of $7,500 and interest thereon from the date of the verdict

### Charitable Corporations—Act of Orderly in Hospital

*(Phillips v Buffalo General Hospital (N Y) 202 N Y Supp 572)*

The Supreme Court of New York, Appellate Division, Fourth Department, says that after much discussion the law has been settled in that state that a charitable corporation is not totally exempt from liability for the negligent acts of its employees committed within the line of their employment It is equally well settled that a hospital maintained as a charitable institution is exempt from liability for the negligent acts of physicians and nurses in the treatment of patients Such exemption from liability has finally been placed squarely on the ground that the patient, on becoming an inmate of such charitable institution, waives all claims of liability growing out of the negligent acts of physicians and nurses that occur during treatment This is true, even though the patient injured by the negligent act of a physician or a nurse is a paying patient

The plaintiff in this case was a paying patient The defendant is a charitable corporation maintaining a hospital The plaintiff, while being treated, was burned by a hot water bottle negligently placed in the bed with her, while she was unconscious, by an orderly It was conceded that the defendant would not be liable in an action for negligence if the hot water bottle had been placed in the bed by the nurse in charge of the case Yet a recovery of a judgment for $750 for damages was permitted, on the theory that the orderly was a servant of the defendant, occupying the same relation to it as superintendent or assistant superintendent, and that for his negligent act the defendant was responsible, under the doctrine of respondeat superior (let the master or superior answer) That judgment, however, is here reversed, and the complaint dismissed, with costs

It is true that the defendant might be held liable for the negligent act of one of its servants, committed within the scope of his employment, which resulted in an injury to a third person not a beneficiary of its charity To hold, however, that the plaintiff, on becoming a patient in the defendant's hospital, impliedly waived all right of action for damages growing out of injuries that might be caused by negligent acts of a nurse, but did not waive such right of action if the injury should be caused by an orderly, seems illogical and unjustified There is no reasonable basis for such distinction

### Liability of One Spouse for Services to the Other

*(Ematrudo v Gordon et ux (Conn) 123 Atl R 14)*

The Supreme Court of Errors of Connecticut says that one Gordon had a scar that extended from the angle of the mouth across the face to the left ear The plaintiff performed an operation, which greatly improved the man's looks Afterward the plaintiff sued both Gordon and the latter's wife to recover compensation for the operation, and obtained a judgment against Gordon for $218, but none against his wife, and this court finds no error

The plaintiff sought to charge Mrs Gordon, under Section 5275 of the General Statutes of Connecticut, which provides that both husband and wife "shall be liable for the reasonable and necessary services of a physician rendered the husband, wife or their minor child," etc The reciprocal liability of each spouse for medical services rendered the other is limited to such as are reasonable and necessary, and the obligation of the wife under the statute is neither greater nor less than that of the husband The latter is liable at common law for reasonable and necessary medical services rendered to the wife "Physic," as used in its original and broad sense, is included in necessaries Surgical services undoubtedly stand on the same ground as medical services So it appears that, in considering the liability of the wife it may be said by way of interpretative analogy that, in substance, it is the same as the husband's common-law liability for services rendered the wife If, then the wife's liability under the statute for surgical services to her husband is equivalent to the liability of the husband for like services

# Medicolegal

## Negligence Imputable to Operating Surgeons

*(Aderhold et al v Bishop (Okla), 221 Pac R 752)*

The Supreme Court of Oklahoma says that the plaintiff, a school teacher named Bishop, employed the defendants, who were partners in the practice of medicine and surgery, to perform an operation for the removal of a goiter from which she was suffering The operation was performed at a sanatorium that was in fact a general hospital and training school for nurses, which provided all modern instruments of surgery, an operating room, and skilled nurses, but which had no medical staff and provided neither physicians nor surgeons While the plaintiff was on the operating table, a pan of hot water, which was kept replenished, was placed between her feet, and the head nurse immersed in the water and wrung out gauze cloths, which she handed to the operating surgeons to be used in taking up the blood that oozed from the incision It was afterward discovered that the plaintiff's feet and ankles had been severely burned either by the hot water dripping on them, or from the pan resting against them It was not denied that the burn was the result of a want of care on the part of the head nurse and other employees of the hospital in the handling of the pan of hot water This left the question of whether or not the admitted negligence of such general employees of the hospital was imputable to the operating surgeons, and this court believes that the question should be answered in the affirmative

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# Current Medical Literature

## AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL for a period of three days No foreign journals are available prior to 1920 nor domestic prior to 1923 Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested)
Titles marked with an asterisk (*) are abstracted below

### American Journal of Psychiatry, Baltimore

3 593 855 (April) 1924

Analysis of Recoverable Dementia Praecox Reactions E A. Strecker and G F Willey Philadelphia —p 593
*Roentgenologic Observations of Gastro-Intestinal Conditions Associated with Mental Disorders G W Henry White Plains N Y —p 681
*Psychic Manifestations in Migraine F P Moersch, Rochester, Minn —p 697
Histopathology of Focal Brain Softening H D Singer, Chicago —p 717
*Acidophil Degeneration in Dementia Praecox O F Kelly, Danvers, Mass —p 721
Creative Imagination" in Normal Persons and in Mentally Diseased. H Lundholm Waverly Mass —p 739
Treatment of Psychoneuroses G J Wright Pittsburgh —p 757
Sociopsychiatric Delinquency Studies from Psychopathic Clinic T Raphael A L Jacoby, W W Harryman and M M Raphael, Detroit —p 767
Demonstration Clinics Conducted by Division on Prevention of Delinquency of National Committee for Mental Hygiene V V Anderson New York —p 779
Sequels of Epidemic Encephalitis in Children J H W Rhein and F A Ebaugh Philadelphia —p 791
Diagnosis of General Paresis N H Brush Santa Barbara, Calif —p 801
Standardization S W Hamilton New York —p 809
Interrelationship Between Endocrine Disturbances and Psychoneuroses C A Patten, Philadelphia and A J Ostheimer, Jenkintown, Pa —p 817

**Gastro-Intestinal Conditions Associated with Mental Disorders**—Henry presents some observations tending to show that visceral position, tonus and motility are affected by different types of psychoses in addition to the variability due to habitus These observations were made on 100 unselected cases in which no definite organic disorder was found In the manic phase of affective psychoses there is a definite tendency toward normal or even higher position, toward normal or hypertonic tonus, and normal or even more rapid motility, whereas in the depressive phase of affective psychoses there is a definite tendency toward just the opposite conditions Paranoid states show a tendency towards higher position, and greater tonus than the paranoid dementia praecox with only a slight degree of hypomotility Psychoneurotics seem to be prone to hypertonicity or even spasms with perhaps hypomotility It seems evident that certain definite physiologic visceral changes accompany and are intimately associated with different types of psychoses, and, furthermore, that it seems probable that the so-called normal variations and even some conditions believed to be pathologic may be due in part to mood variations or other tendencies toward psychotic states in the normal individual

**Psychic Manifestations of Migraine**—The psychic findings of migraine are reviewed by Moersch Of the 1,000 cases reviewed, 15 per cent manifested mental symptoms, either directly associated with the attack, or in some manner related to the condition The most common complaint was a mild mental and physical depression, a sense of apathy, dullness, drowsiness, fatigue lack of energy, anxiety, general distress and fear of impending trouble In twenty-two of these cases the psychic disturbances were so profound that they might well be considered as transitory psychic episodes Only one patient showed any evidence of endocrine disturbance

**Acidophil Degeneration in Dementia Praecox**—Kelly calls attention to acidophil degeneration, hitherto described only once and otherwise practically ignored The possibilities of its presence being the result of tuberculosis or of the method of tissue fixation are considered and discarded It was found in seven of a group of ten cases clinically diagnosed dementia praecox, of the three cases in which it was not found, two were doubtful diagnoses and one was found at necropsy to be another condition Of thirty-two cases with the diagnoses other than dementia praecox, two showed acidophil degeneration On reviewing their records Kelly feels that one probably was a case of dementia praecox, and it is within the bounds of possibility that in the other dementia praecox may have been present in addition to neurosyphilis Its distribution is considered, especially in relation to symptoms and to Kraepelin's theory of the function of the small and medium pyramidal cells The cause and significance of acidophil degeneration are at present unknown At any rate, it adds to the already large amount of evidence that the mental symptoms of dementia praecox are the manifestations of the disordered function of an organically disordered brain

**Treatment of Psychoneuroses**—The purpose of Wright's paper is to show that the majority of the neuroses and psychoneuroses as seen in an active neuropsychiatric practice are benign and open to relatively easy approach and cure The method of treatment is naturally one of reeducation and readjustment In the pernicious or malignant cases the same methods are advisable, but some of these cases are so complex in their development that a disproportionate amount of time and effort is required, and such patients should be referred to men specializing in this direction

### Boston Medical and Surgical Journal

190 865 916 (May 22) 1924

Medical Journalism in New England, 1788 1924 J Garland, Boston —p 865
Drug Eruptions C G Lane Boston —p 880
Osteomyelitis of the Ilium in Children C Bearse Boston —p 883

190 917 964 (May 29) 1924

*Torula Infection in Man Report of Case G H Hansmann, Boston —p 917
Hirst Transperitoneal Cesarean Section E M Hodgkins Boston —p 920
Meckel's Diverticulum in Left Inguinal Hernia T H Lanman, Boston —p 926
Case of Lethargic Encephalitis with Choked Disk D C Parmenter and R C Cheney Boston —p 928

**Torula Infection in Man**—Stomach trouble, dizziness and nausea were the chief symptoms in the case reported by Hansmann The temperature was normal The blood findings were hemoglobin, 107 per cent, erythrocytes, 5,340, marked leukocytosis, 81 per cent polymorphonuclears and 19 per cent lymphocytes, Wassermann reaction, negative, and blood urea nitrogen, 16 mg The patient became drowsy and complained of continuous headache In a week there was a constant tendency to sleep The pupils reacted promptly to light and the knee jerks were not exaggerated The neck was very rigid and the patient was stuporous but not lethargic There was a suggestive Kernig sign He died about three weeks after entering the hospital A necropsy was held The findings bearing on the case were met with in the brain Along the vessels, emerging from the Island of Reil were numerous translucent nodules surrounded by a greyish zone Over the cerebrum ten lesions were counted The cerebellum was adherent to the dura and could not be removed without tearing the cerebellum somewhat The lesions seemed to be confined entirely to the meninges Sections of various portions of the brain, other than those including meninges, showed no pathology Sections of meninges from the region of the pons, cerebellum and Island of Reil showed most marked lesions of an extensive proliferation reaction In relation to the lesions was an organism which was classified as *Torula histolytica*

### Georgia Medical Association Journal, Atlanta

13 199 242 (May) 1924

Technician Versus Obstetrician E C Demmond Savannah —p 199
Insulin and Diet in Diabetes J A Redfearn Albany —p 201
Mucous Colitis L G Neal Cleveland Ga —p 204
Local Anesthesia in Anorectal Diseases N W Baird Atlanta —p 206
*Chronic Malarial Infection G M Murray Atlanta —p 208
*Phenolphthalein Eruption W H Hailey, Atlanta —p 210

**Chronic Malaria Cause of Acne and Asthma**—Murray asserts that in his experience chronic malarial infection with its altered blood state is a very frequent cause of acne vulgaris and asthma

**Predelection of Phenolphthalein Eruptions for Jews**—The case reported by Hailey is the first to be reported from

enterostomy Two cases are reported by Buchanan Many operations had been performed on one of the patients amputation of cervix, rectal operation for hemorrhoids, appendectomy, gastro-enterostomy and gastro-enterostomy undone The headaches continued unabated The five operations to which this patient had been subjected only tended to debilitate her generally, and had no good influence on the primary condition In the second case only one operation was performed—an appendectomy It had no influence on the course of the trouble Buchanan asserts that migraine is hereditary in man and is transmitted from generation to generation according to the laws of Mendel

**Familial Cystinuria**—Harris found that two other members of the family of his patient (brothers) have cystinuria, one of them with a definite "rheumatic" history, the other having a distinct oxaluria associated with cystin Two other brothers also showed a marked excess of oxalates

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1 809 846 (May 10) 1924

*Angina Pectoris and Possibilities of Surgical Relief K F Wenckebach—p 809
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**Angina Pectoris**—Allbutt's theory of angina is endorsed by Wenckebach and its treatment by resection of the depressor nerve is discussed, although doubt is expressed that it will be the operation of choice because so often the nerve is difficult or even impossible to find Theoretically, this is the safest form of operation because in it only afferent nerves are removed and the essential augmentory nerves are left uninjured There is proof that the depressor nerve, on stretching of the aortic wall by high blood pressure, brings about a rapid fall, thus relieving the stress on the aortic wall

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101 173 252 (April) 1924

Medical Aspects of Samuel Johnson H Rolleston—p 173
Problem of Fitness L Mackenzie—p 192
Practice of Psychanalysis D Yellowlees—p 198
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**Alkaptonuria**—There was no consanguinity between the patients in the case reported by Young, nor any record of the abnormality in any of the child's antecedents, within two generations at least There was a definite history of toxic disturbance during antenatal life, the mother having suffered from edema of the lower extremities, headache, sickness and vomiting during the latter part of her pregnancy Young believes that in view of the comparatively common incidence of albuminuria during pregnancy, and of the extreme rarity of alkaptonuria, the existence of renal symptoms in the mother in her pregnancy must be regarded as a fortuitous circumstance having no bearing on the etiology of the abnormality

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1 935 986 (May 10) 1924

*Minor Injuries of Brain W Trotter—p 935
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Psychology of Vertigo W F Menzies—p 949
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Source of Infection with Heterophyes in Egypt M Khalil—p 952

**Cause of Traumatic Headache**—In discussing the pathology of traumatic headache, Trotter compares the brain with other viscera inclosed in serous membranes As with other serous membranes, it is probable, therefore, that the most effective pain-producing stimulus is stretching The arrangement of the dural septa is such that variations in the amount of intracranial pressure and inequalities in its distribution tell on them by causing alterations in tension Thus it comes about that headache of organic origin is a direct expression of disturbances if intracranial pressure however these may be produced Such a conclusion is in obvious agreement with clinical experience It is probable that in nature a reduction in intracranial pressure is but rarely the cause of headache. It is plain, however, from the arrangement of the dural septa, that a local reduction in pressure can give rise to painful stretching until the disturbance has become equalized This is the mechanism by which is produced the headache that often follows the withdrawal of fluid by a lumbar puncture When a disturbance of intracranial pressure is severe or rapidly progressive the consequent headache is continuous When the disturbance is moderate, and either stationary or only slowly progressive, the headache is apt to be only paroxysmal This latter is the case with a certain number of slow growing cerebral tumors in their early stages, and is almost characteristic of traumatic headaches The increase of tension is associated with one or other of two conditions of the brain itself When the headache has followed an injury causing concussion, the brain is edematous and exudes an undue amount of fluid when exposed When the headache has followed a localized blow on the head, and the region struck has been explored, the brain shows by its swelling and blood staining that it is the seat of a localized bruising

**Rammstedt Operation for Pyloric Stenosis**—Parsons concludes this series of lectures with the dictum that the rational treatment of pyloric stenosis of infants includes the performance of the Rammstedt operation at the earliest possible moment

**Islands of Langerhans Not Separate Organs**—Vincent concludes his review by stating that the islets of Langerhans are not separate and distinct organs They represent temporarily modified portions of the secretory tubules of the pancreas By certain modes of staining some cells of the islets may be differentiated from others, but the differentiation may point to different stages of activity and not indicate two distinct types of cell Moreover, these are signs of a similar differentiation among the cells of the zymogenous tissue The islets are anatomically continuous with the zymogenous tubes, and the two kinds of tissue may be seen to merge one into the other During inanition and under other circumstances the amount of islet tissue is regularly and markedly increased

### Medical Journal of Australia, Sydney

1 381 404 (April 19) 1924

Surgical Anatomy of Acute Appendicitis H C R Darling—p 385
*Unusual Combination of Pathologic Lesions in Infant R Southby—p 391

SUPPLEMENT

Irregularities in Iso-Agglutination A H Tebutt—p 234
Biochemical Index in Natives of New Guinea G M Heydon and T W Murphy—p 235
Types of Infection in Lobar Pneumonia and Influence of Serum Treatment B A Warner—p 236
Statistical Review of Tuberculosis in Australia J H L Cumpston—p 237
Incidence of Tuberculosis in Australia W J Penfold—p 252

**Sequels of Pneumonia and Measles**—Southby's patient, aged 14 months, died in convulsions She had previously had pneumonia and measles The necropsy disclosed pulmonary abscess secondary to pneumonia, otitis media with secondary septic meningitis and hemorrhagic glioma

### Practitioner, London

112 273 340 (May) 1924

Present Position of Surgery of Labyrinth W Milligan—p 273
Risks of Prostatectomy K M Walker—p 278
Early Diagnosis of General Paralysis G W T H Fleming—p 287
Diagnosis of Subacute Osteomyelitis C E Shattock—p 296
Rheumatism in Children H T Ashby—p 303
French Views on Heart Disease F Moor—p 308
Nature of Stuttering E W Scripture—p 318
Subacute Infective Endocarditis H W Jones—p 327

### South African Medical Record, Cape Town

22 137 160 (April 12) 1924

Curability and Treatment of Early Syphilis B Bernstein—p 149

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Case of Rhinosporidium Kinealyi W L Forsyth—p 951
Source of Infection with Heterophyes in Egypt M Khalil—p 952

**Cause of Traumatic Headache**—In discussing the pathology of traumatic headache, Trotter compares the brain with other viscera inclosed in serous membranes As with other serous membranes, it is probable, therefore, that the most effective pain-producing stimulus is stretching The arrangement of the dural septa is such that variations in the amount of intracranial pressure and inequalities in its distribution tell on them by causing alterations in tension Thus it comes about that headache of organic origin is a direct expression of disturbances if intracranial pressure however these may be produced Such a conclusion is in obvious agreement with clinical experience It is probable that in nature a reduction in intracranial pressure is but rarely the cause of headache. It is plain, however, from the arrangement of the dural septa, that a local reduction in pressure can give rise to painful stretching until the disturbance has become equalized This is the mechanism by which is produced the headache that often follows the withdrawal of fluid by a lumbar puncture When a disturbance of intracranial pressure is severe or rapidly progressive the consequent headache is continuous When the disturbance is moderate, and either stationary or only slowly progressive, the headache is apt to be only paroxysmal This latter is the case with a certain number of slow growing cerebral tumors in their early stages, and is almost characteristic of traumatic headaches The increase of tension is associated with one or other of two conditions of the brain itself When the headache has followed an injury causing concussion, the brain is edematous and exudes an undue amount of fluid when exposed When the headache has followed a localized blow on the head, and the region struck has been explored, the brain shows by its swelling and blood staining that it is the seat of a localized bruising

**Rammstedt Operation for Pyloric Stenosis**—Parsons concludes this series of lectures with the dictum that the rational treatment of pyloric stenosis of infants includes the performance of the Rammstedt operation at the earliest possible moment

**Islands of Langerhans Not Separate Organs**—Vincent concludes his review by stating that the islets of Langerhans are not separate and distinct organs They represent temporarily modified portions of the secretory tubules of the pancreas By certain modes of staining some cells of the islets may be differentiated from others, but the differentiation may point to different stages of activity and not indicate two distinct types of cell Moreover, these are signs of a similar differentiation among the cells of the zymogenous tissue The islets are anatomically continuous with the zymogenous tubes, and the two kinds of tissue may be seen to merge one into the other During inanition and under other circumstances the amount of islet tissue is regularly and markedly increased

### Medical Journal of Australia, Sydney

1 381 404 (April 19) 1924

Surgical Anatomy of Acute Appendicitis H C R Darling—p 385
*Unusual Combination of Pathologic Lesions in Infant R Southby—p 391

SUPPLEMENT

Irregularities in Iso-Agglutination A H Tebutt—p 234
Biochemical Index in Natives of New Guinea G M Heydon and T W Murphy—p 235
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Statistical Review of Tuberculosis in Australia J H L Cumpston—p 237
Incidence of Tuberculosis in Australia W J Penfold—p 252

**Sequels of Pneumonia and Measles**—Southby's patient, aged 14 months, died in convulsions She had previously had pneumonia and measles The necropsy disclosed pulmonary abscess secondary to pneumonia, otitis media with secondary septic meningitis and hemorrhagic glioma

### Practitioner, London

112 273 340 (May) 1924

Present Position of Surgery of Labyrinth W Milligan—p 273
Risks of Prostatectomy K M Walker—p 278
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### South African Medical Record, Cape Town

22 137 160 (April 12) 1924

Curability and Treatment of Early Syphilis B Bernstein—p 149

## Annales de Médecine, Paris

15 365 458 (May) 1924

*Chronic Miliary Tuberculosis R Burnand and L Saye —p 365
Albumosemia and Liver Function Piechaud and Aubertin —p 387
*Basal Metabolism in Postencephalitic States Van Bogaert —p 403
Tuberculosis and Typhoid A Pelle —p 411
Tuberculosis of Nervous Centers Bertrand and Medakovitch —p 419

**Chronic Miliary Tuberculosis**—Burnand and Saye describe practically apyretic and chronic types of miliary tuberculosis of the lungs The disease may last for years Roentgen rays are the main diagnostic help

**Basal Metabolism and Postencephalitic States** — Van Bogaert determined the basal metabolism in twelve patients with various postencephalitic syndromes, such as parkinsonism, obesity and genital disturbances The figures obtained were normal

## A M M, Mexico, D F.

2 159 216 (May) 1924

*The Typhus Problem T G Perrin —p 163
Estimating the Carbohydrate Tolerance in Diabetics F de P Miranda —p 185
*Myiasis in the Nose D Gurria Urgell —p 192
The Encroaching Evil I Chavez —p 196

**Microbiology of Typhus**—Perrin studied the digestive and copulatory apparatus in 508 lice from healthy persons Bodies resembling rickettsia were found in from 8 to 45 per cent They differed from the prowazeki type only in the fact that they were not frankly intracellular The prowazeki occurs in the blood in typhus in such small numbers that it is difficult to detect it The typhus clinical picture identifies the rickettsia usually, instead of the rickettsia identifying the typhus Vaccine treatment and prevention is still in the tentative stage, so that the identification of the causal germ of typhus has not proved of such paramount importance as anticipated The whole typhus question is solved, however, by the fact that the causal germ has never been found in any insects except the louse

**Larvae in the Nose**—Gurria Urgell declares that nothing is so effectual and so simple as inhalation of 5 or 6 drops of chloroform several times a day for dislodging and expelling larvae in the nasal passages In a case described, eighty maggots were thus expelled in four days

## Deutsche medizinische Wochenschrift, Leipzig

50 665 704 (May 23) 1924

A Protein from Tubercle Bacilli III E Toennissen —p 665
*Tuberculosis Immunity R Arima et al —p 666
*Human and Bovine Tuberculosis Schilling and Hackenthal —p 668
Ten Years of Treatment of External Tuberculosis E Kisch —p 668
*Experimental Tuberculosis and Vitamins B Leichtentritt —p 672
*Serodiagnosis of Tuberculosis G Blumenthal —p 673
*Wassermann's Tuberculosis Reaction S Silberstein —p 675
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*Hemogram in Tuberculosis H Dornedden —p 678
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Stimulation Treatment in Surgical Tuberculosis L Ruscher —p 684
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Blood Calcium in Tuberculosis W Zimmermann —p 686
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Telling a Patient About Contagiousness Kayser Petersen —p 692
Clinical or Bacteriologic Classification of Cases? P Schmidt —p 693
Epidemiology of Tuberculosis in Schools A Hofmann —p 693
Distress of Lupus Patients Axmann —p 695
Berlin Information Bureau for Tuberculosis, Alcohol and Cancer Patients F Blumenthal —p 695

**Tuberculosis Immunity**—Arima, Aoyama and Ohnawa succeeded in getting on saponin-containing mediums tubercle bacilli which were not acid fast These strains have a low virulence Rabbits and guinea-pigs were protected by them against subsequent injections of more virulent strains

**Differential Biologic Test of Type of Human and Bovine Tubercle Bacilli**—Schilling and Hackenthal found a marked specificity in the action of extracts from human and bovine tubercle bacilli on the surviving intestine of guinea-pigs infected with tubercle bacilli of the same type

**Experimental Tuberculosis and Vitamins**—Leichtentritt prolonged the life of tuberculous guinea-pigs by feeding them large amounts of neutralized lemon juice Large doses of cod liver oil (10 c c daily) had an unfavorable influence, due to the overdose of fat

**Serodiagnosis of Tuberculosis**—G Blumenthal extracts tubercle bacilli with acetone, and then with distilled water with addition of phenol The antigen thus obtained is stable

**Wassermann's Tuberculosis Reaction**—Silberstein tested 375 serums from 334 patients for Wassermann's tuberculosis reaction The strongest reactions were obtained with serums from nontuberculous syphilitics He does not consider this reaction nor any other as sufficiently specific for practical purposes

**Hemogram in Tuberculosis**—Dornedden was able to draw correct deductions as to the toxemia and resisting power of tuberculous patients by differential counts (including the younger forms of neutrophils) of blood smears

## Deutsche Zeitschrift fur Chirurgie, Leipzig

185 145 288 (May) 1924

*Tuberculosis of Male Genital Organs L Sussig —p 145
*Cancer in Large Intestine H Steindl —p 186
*Diagnosis of Acute Necrosis of the Pancreas K Bringmann —p 211
*Bone and Joint Tuberculosis O H Petersen and J Hellmann —p 230
*Intratracheal Thyroid H Schachenmann —p 248
*Total Gastrectomy for High Cancer A Schüppel —p 268
Spontaneous Dislocation in Tuberculous Coxitis Münch —p 274
Complication of Fracture of Patella E Hertel —p 279
*Roentgenography of Exposed Kidney K Reschke —p 281
Transverse Bar in Correcting Foot Deformity O Roith —p 286

**Genital Tuberculosis in the Male**—Sussig states that in the 83 cases of this kind in Hochenegg's service, 1904 to 1922, rectal examination revealed tuberculous lesions in the prostate or seminal vesicles in two-thirds of the cases, although there had been nothing at any time to indicate disease in these organs In 23 cases treatment was merely conservative, operative in the others Recent reexamination in 44 cases showed that one of the 8 conservatively treated patients had recovered completely, the genital process healing and the process in the lung being arrested, the clinical cure persisting for fifteen years to date A clinical cure was realized also in two other cases, but the tuberculosis continued to progress in the rest In 85 per cent of the total 87 cases some tuberculous process elsewhere in the body was manifest, generally it was in the lung, and only in 6 was it in a latent stage Sussig thinks we can accept it as the rule that genital tuberculosis in the male is always preceded by some tuberculous process elsewhere, and that the process attacks the genital apparatus as a whole, not any one organ He declares also that involvement of the other side is almost invariably due to blood-borne infection and not to transmission by way of the vas deferens Sooner or later, in 90 per cent the previously supposedly healthy testis and epididymis on the other side developed tuberculosis after semicastration General treatment for tuberculosis is imperative after operation the same as in the conservatively treated cases The mortality in the purely conservatively treated cases was 37 5 per cent while it was 50 4 per cent when treatment was restricted to the operation alone Combination of conservative and operative measures should be the rule, and it must be borne in mind that the primary process elsewhere—often dating from childhood—is liable to flare up even after many years In conclusion he warns that neglect of rectal examination in case of pelvic tuberculous processes is a grave fault, as likewise neglect of microscopic examination before labeling any process as tuberculous

**Cancer in Pelvic Large Intestine**—Steindl reports satisfactory outcome in cases of cancer in the rectum treated by drawing the unopened cancer segment outside, in the sacral region, and resecting it a few days later With extensive progressing gangrene, even this procedure is of no avail Four of the total twenty patients thus treated died

**Differential Diagnosis of Acute Necrosis of the Pancreas**—Bringmann tabulates the characteristic blood findings in 3 cases The neutrophils formed 90 to 93 per cent of the leukocytes, with 2 5 and 3 per cent lymphocytes, 4 5 to 7 5 per cent monocytes, and aneosinophilia The neutrophils showed pronounced shifting of nuclei, of the hyperregeneration type

0.5 per cent myelocytes 8-10.5 per cent youthful forms, 23 to 29 per cent rod nuclei and 53 to 60 per cent segmented nuclei. Blood findings like these are never found in ileus, cholecystitis, kidney colic, acute gastroduodenitis or mesenteric thrombosis—the affections for which acute necrosis of the pancreas is liable to be mistaken. They are found in perforative peritonitis, but this calls likewise for immediate laparotomy.

**Roentgen-Ray Treatment of Bone and Joint Tuberculosis**—Analysis of 609 cases confirms that the roentgen rays can be regarded only as an adjuvant, and that small doses are imperative.

**Aberrant Thyroid Tissue in the Trachea**—The struma intratrachealis was easily removed from the girl, aged 18. Of the thirty-five similar cases on record, 68 per cent were in women. In seven cases, the normally located thyroid seemed to have grown into the trachea.

**Total Gastrectomy for Cancer**—Schuppel lists his case as the forty-first on record. The cancer in the man, aged 44, was located close to the cardia, and the upper loop of the jejunum was sutured end-to-side to the esophagus stump. After this the duodenum was joined to the jejunum, and the stomach and pylorus region were removed entire. Nourishment was given through a jejunal fistula during the two-hour operation, and recuperation was prompt and apparently complete. The first gastric symptoms had been noted six months before.

**Kidney Calculi**—Reschke drew the kidney out in two cases and worked the roentgen plate, wrapped in black paper, in front of or behind the kidney. The patient was then wheeled into the roentgen room. In ten minutes the finished roentgenogram cleared up the diagnosis.

## Jahrbuch fur Kinderheilkunde, Berlin

**104** 321-420 (April) 1924

Chronic Epidemic Encephalitis in Children. J. Grosz and M. Goldberger—p. 321
*Cholelithiasis in Children. A. Fischer—p. 350
*Infectious Intervertebral Chondritis. A. Baron—p. 357
Sinus Thrombosis After Otitis. A. Neubauer—p. 361
Roentgen Ray Treatment of Tuberculosis. A. Weisz—p. 365
*Osmotic Resistance of Erythrocytes. D. Acel—p. 377
*Tetany Spasms Due to Autonomous Nerves. F. Groszmann—p. 382
Paroxysmal Hemoglobinuria in Child. S. Foldes—p. 392

**Cholelithiasis in Children**—Fischer reports the history of a case of cholelithiasis and three cases of cholecystitis in girls from 9 to 11 years of age. One of them had empyema of the gallbladder in the second week of typhoid. One girl, aged 2½, had a partial occlusion of the common bile duct, on the fifth day of scarlet fever, from compression by enlarged lymphatic glands. She was operated on and died. Another, with a staphylococcus cholecystitis, recovered.

**Infectious Intervertebral Chondritis**—Baron's patient, a boy, aged 12, suddenly developed symptoms of influenza. Pains in the back were followed by a bending of the spine from which he recovered only slowly. The roentgen-ray examination revealed a probable affection of the intervertebral disks.

**Osmotic Resistance of Erythrocytes**—Acel found that the erythrocytes of infants and young children are more resistant to hypotonic solutions than those of adults.

**Tetany Spasms Due to Autonomous Nerves**—Groszmann observed roentgenoscopically a contracture of the stomach in an infant, aged 18 months, with latent spasmophilia. The infant recovered after calcium treatment. This medication combined with belladonna gave good results in a 10 months old, artificially fed infant who was taken ill suddenly with signs of ileus. There was a spasm of the sigmoid flexure and a dilatation of the colon.

## Klinische Wochenschrift, Berlin

**3** 913-960 (May 20) 1924

Constitution and Urology. C. Posner—p. 913
*The Vagus Compression Test. G. Recht—p. 916
Serodiagnosis of Cancer. H. Kahn—p. 920
Endocarditis or Thrombosis of Valves. E. Roesner—p. 922
Peroxydases. H. W. Bansi—p. 927
*Heredity and Sex of Progeny. J. Bauer—p. 928
*Birth Injuries. A. Stern and P. Schwartz—p. 931
By Effect of Phenylcinchoninic Acid. W. Schwahn—p. 935
Thyroid and Antibody Production. Weyrauch and Herzfeld—p. 936
Light and Protein and Purin Metabolism. H. Wiener—p. 936
*Pseudochylous Exudates. W. D. Jankowsky—p. 937
Enteroptosis. R. Levy—p. 938
*Genesis of Teratomas. M. Budde—p. 942

**Dyspnea in the Vagus Compression Test**—Recht investigated the changes of respiration occurring after compression of the pneumogastric. He observed in many instances dyspnea with deep respiration, which changed into apnea of short duration after the release from pressure. The disturbance is chiefly reflex, but direct changes in the brain circulation, caused by the simultaneous compression of the carotid artery and jugular vein, may play a part.

**Heredity and Sex of Progeny**—Bauer publishes sex statistics in regard to more than 12,000 children from 2,300 families. There was no indication of any predisposition for procreation of either boys or girls.

**Injuries to Child at Birth**—Stern and Schwartz deal with the clinical signs of injuries suffered by the baby during birth. A large number of them are due to hemorrhages caused by the difference between the high intra-uterine and low external pressure. Spontaneous nystagmus and the intensity of deformation of the skull were investigated in 100 infants. Nystagmus was present in only one third of the 44 normally delivered infants but in all of the 11 with faulty presentation. Spontaneous nystagmus was absent only in 4 out of 24 cases of contracted pelvis deliveries, and in 8 out of 69 babies with marked molding of the head. It was present, however, in 18 out of 28 babies with normally shaped skulls. The 3 babies delivered by cesarean section had a round head and no nystagmus. In 4 other cases, the head was already deformed (before rupture of the membranes) and nystagmus was present. Intra partum molding of the cranial bones invariably causes a change in the brain. Many instances of asphyxia, debility and convulsions in the new-born are merely symptoms from cerebral lesions.

**Pseudochylous Pleuritic Effusion**—Jankowsky found remnants of larvae of ascarids in a pseudochylous pleuritic exudate.

**Genesis of Teratomas**—Budde considers only the external malformations as rudiments of twins. The internal teratomas are real tumors which may have been derived from the original blastophore.

## Medizinische Klinik, Berlin

**20** 661-696 (May 18) 1924

*Excretory Function of the Liver. T. Brugsch and H. Horsters—p. 661
*Phenylcinchoninic Acid in Liver Affections. K. Grunenberg and H. Ullmann—p. 663
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Indications for Roentgen Ray Treatment. H. Fritsch—p. 683 Concl. —p. 719
Some Legal Aspects of Practice. F. Thomas—p. 695 Concl.—p. 710

**Excretory Function of the Liver**—Brugsch and Horsters emphasize the excretory function of the liver. A retention of bile produces a real poisoning. They propose to use the name "choleretics" for substances which increase the production of bile and keep the term "cholagogues" for the drugs which merely promote its expulsion. The biliary acids, insulin (in one experiment) and especially phenylcinchoninic acid are the only drugs with distinct choleretic action known so far.

**Phenylcinchoninic Acid in Liver Affections**—Grunenberg and Ullmann had good results with injections of phenylcinchoninic acid in catarrhal jaundice.

**Suboccipital Puncture**—Wartenberg describes the technic and possible uses of suboccipital puncture.

**Osteomyelitis of Tenth Dorsal Vertebra**—Raimann's patient, a girl, 11 years of age, was taken suddenly ill about four weeks after having had two furuncles. The whole spinal

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# SUBJECT INDEX

This is an index to all the reading matter in THE JOURNAL In the Current Medical Literature Department only the articles which have been abstracted are indexed

The letters used to explain in which department the matter indexed appears are as follows "E," Editorial, 'C," Correspondence, "T," Therapeutics, 'Ml," Medicolegal, "P," Propaganda for Reform, "ME," Medical Economics, "ab," abstract, the star (*) indicates an original article in THE JOURNAL

This is a subject index and one should, therefore, look for the subject word, with the following exceptions "Book Notices," 'Deaths" and Society Proceedings" are indexed under these titles at the end of the letters "B," "D" and "S" State board examinations are entered under the general heading State Board Reports, and not under the names of the individual states Matter pertaining to the Association is indexed under "American Medical Association" The name of the author, in brackets, follows the subject entry

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*Acad —Academy*
*A —Association*
*Am —American*
*Coll —College*
*Conf —Conference*
*Cong —Congress*
*Conv —Convention*
*Dist —District*
*Hosp —Hospital*
*Internat —International*
*M —Medical or Medicine*
*Nat —National*
*Phar —Pharmaceutical*
*Phys —Physicians*
*Ry —Railway*
*S —Society*
*Surg —Surgical or Surgeon, Surgery*

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